

HISTORY
OF THE
BERWICKSHIRE
NATURALISTS' CLUB

INSTITUTED SEPTEMBER 22, 1831

"MARE ET TELLUS, ET, QUOD TEGIT OMNIA, CÆLUM"

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HISTORY OF THE BERWICKSHIRE NATURALISTS' CLUB

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CLUB NOTES

During the year the Club suffered a notable loss in the death of its former Treasurer, Jim Stawart. He had served in this office for some nine years, before his age made him feel that it was time to retire, and in these years he worked very hard for us in a job the weight of which few people realise. Our sympathy is with his widow.

Meetings were held in 1981 as follows:—

May. Traquair and the Scottish Museum of Textiles, Walkerburn.

June. Kirknewton Church, Crawley Tower and Hedgeley Hall.

July. Mellerstain, Greenknowe and Legerwood.

August. Aberlady, Myreton Motor Museum and Dirleton Castle.

September. Grantshouse, Thurston Construction Village and Torness Power Station.

October. Annual Meeting in Berwick. In the morning, Berwick Parish Church and Town Hall.

PROCEEDINGS
OF THE
BERWICKSHIRE
NATURALISTS' CLUB

THE EXISTING BRIDGES
OF THE RIVER TWEED

*being the Anniversary Address delivered by
Mrs. D. Mackenzie Robertson, M.C.S.P., F.S.A.Scot.,
President of the Club, on 14th October, 1981*

FIRST of all, Ladies and Gentlemen, may I say what an honour it has been for me to be President in this 150th Anniversary Year of the Berwickshire Naturalists' Club—an honour and a pleasure.

My address to the Club this afternoon is entitled "A Short Account of the Existing Bridges of the River Tweed from Source to Mouth."

On re-reading the above it seems to sound a little grandiose but, in part at least, this essay follows in the eminent footsteps of many more scholarly writers and investigators than myself. I have learned a great deal from previous writers on this subject. Great help on my personal tour of the crossings of the Tweed was given, in part, by the excellent engineering booklet of the Institution of Civil Engineers written by Roland Paxton and Ted Ruddock in Edinburgh, both experts of that Institution. This is called "A Heritage of Bridges" and is a mine of information on the technical and engineering background to some of the Tweed Bridges. The booklet is now widely available and makes fascinating reading.

Other sources have included "The New Statistical Account of Scotland", John Buchan's History of Peeblesshire, the books of the Royal Commission on the Ancient Monuments of Scotland, "The Story of Telford" (Gibb), and various volumes on the great engineers, John Rennie, John Smeaton, etc., etc. An especially interesting account of John Rennie is "A Bridge over the Atlantic" by Wallace Reyburn. It includes the

sad, but ultimately successful, transportation of Rennie's LONDON BRIDGE to Lake Havasu, Arizona. This bridge was bought and set up there by an American consortium. The story that the Americans thought they were buying TOWER BRIDGE and got LONDON BRIDGE instead is purely apocryphal. These great surveyors and designers, not just of bridges but also of canals, houses, public buildings, light-houses and other engineering subjects, have been much written about, but occasionally talented designers like Captain Samuel Brown, R.N.—later Sir Samuel Brown—are found to have little written about them. However, a journey, based on a car, but mainly on foot, has turned up quite a lot of extra information and has found for me quite a few “bridge gems” I had known little or nothing about. The great bridges of Kelso, Coldstream and Berwick are well-known and written about but here and there on my river tour of 96 miles are some little-known subjects which have given me great pleasure to find.

A water journey, paradoxically, on foot, is a pleasant enterprise in such a warm and sunny late Summer which we have had—I have enjoyed doing this and hope you will also have some pleasure in my short account of it.

The River Tweed, as we all know, rises on the hilly watershed of the Tweedsmuir hills—at Tweed's Well, in fact. Here the watercourse is little bigger than a ditch and runs in a northerly direction towards the cottage and farm of Tweedhopefoot, perhaps one of the four little alehouses in this area in Covenanting times. This is an anciently inhabited area—faint remains of settlements can be seen and the area is tracked by ancient roads. The old coaching road from Edinburgh to Dumfries ran through this valley and the site of Tweed's Cross is noted on the map. Much of prehistoric interest can be seen from aerial photographs.

1. My first crossing of the river is here—Tweed's first bridge. An access road to the cottage at TWEEDHOPEFOOT is carried over a small, stone, single arch “bridgelet” (if I may use that word). There is nothing of note about this structure—although its foundations may be of greater age.

2. Some miles down river is TWEEDSMUIR set in the countryside much loved by John Buchan and his family. The minor road to the church and village is carried over a pleasant, single-arched structure of rubble masonry at Carlow's Linn, the span of the arch being just over 31 feet and the width of the roadway being 12 feet 7 inches. There is the date 1783 incised on a sandstone block above the crown of the arch. The bridge is buttressed on the South side. Tweedsmuir Church (1874) is

built on a conical mound of geological formation known as Quarter Knowe and replaces the structure of 1648. The graveyard has the well-known "Covenanters' Stone" amongst many other monuments of interest.

3. A few miles further on we come to HEARTHSTANES, a modern metal bridge. The land of HEARTHSTANES was held anciently by the Hays of Yester, amongst others.

4. 5. Two further crossings of the river are here but are purely for access and are of little interest.

6. At EASTER STANHOPE the structure is modern and plain but the stone approaches of what must have been a much older bridge can still be seen. Easter Stanhope was part of the ancient holdings of the Murrays.

7. A memory of the old railway line that was laid for use during the building of Talla reservoir nearby is a bridge in concrete now used as access to the farms on the opposite bank of the Tweed. On the main road is a reminder that nearby stood the dwelling of "Willie Wastle". There is a tale also that a field near the steading of the farm of Patervan, here, is the site of the hamlet of "Lincumdoddie."

"Willie Wastle dwalt on Tweed,
The spot they ca'd it Linkumdoddie;

Willie was a wabster guid,
Cou'd stown a clue wi' ony body". (Burns)

8. At Rachan Hall, a little further down river a gateway bears another notice—one I have always liked:—

"BE YE man or BE YE wummin,
BE YE gaen or BE YE cummin,
BE YE soon or BE YE late,
BE YE sure to shut the gate".

MERLINDALE BRIDGE comes next. Built in 1874 it was re-constructed by County Engineers in 1932 (Alec Anderson). The river at this point assumes greater status and begins to gather width and strength.

9. ALTARSTONE at Stobo is the 9th structure of this journey. It was built of concrete by German prisoners of the First World War encamped at Lour.

10. NEW KIRKTON MANOR BRIDGE. This was put up in 1883 to replace an ancient ford. It was the gift of the Misses Kidd of Glenternie.

11. Now comes one of the most handsome of the latter-day structures crossing the river. PEEBLES RAILWAY VIADUCT is an eight-arched, ashlar bridge, put up by the Caledonian Railway Company, for the line carrying the track



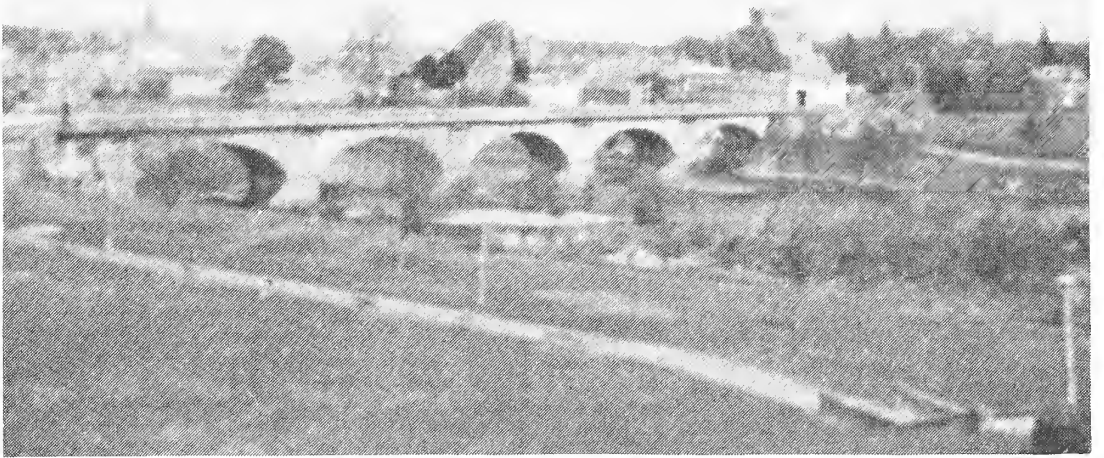
TWEEDSMUIR BRIDGE



PEEBLES RAILWAY VIADUCT BRIDGE



PRIORSFORD BRIDGE, PEEBLES



KELSO BRIDGE (Rennie)



COLDSTREAM BRIDGE (Smeaton)

west from Peebles, possibly in 1861. This fine, iron-parapeted viaduct is built to form a graceful curve and has incised crosses on each pier and single columns on each spandrel. It carried the track of the L.M.S. Railway towards a tunnel of about three-quarters of a mile into Peebles.

12. The first bridge we come across within the town of PEEBLES is in a beautiful situation within Hay Lodge Park. It is a footbridge of concrete and tubular steel and was presented to the town by J. S. Fotheringham in 1953 and bears the crests of two towns—Peebles and Johannesburg. The family of J. S. Fotheringham emigrated to South Africa early this century and were writers and merchants in the town of Peebles. J. S. Fotheringham was Mayor of Johannesburg and was made a Freeman of Peebles in 1953. Incidentally the Town Crest of Peebles shows three salmon—one swimming up-river and two coming down—with the motto “Contra Nando Incrementum”, giving a meaning of, loosely, prosperity in adversity. According to wags and, I suspect, poachers, the salmon should be reversed—for every two which go up only one comes down.

13. Within the town of PEEBLES itself is the so-called Old Bridge of Peebles. Always an ancient crossing of the river—the present structure is of five segmental arches and is built of ashlar. The first records of a stone bridge at this point refer to the 15th century—although there may have been other structures before. The oldest part of the bridge appears to be mediaeval and it is interesting to note that the Master Mason responsible for the work on the Tay Bridge in Perth in the middle of the 15th century was a “John of Peebles”. Perhaps the same mastermind of the Old Bridge of Peebles? The old bridge has been altered and widened more than once, in 1884 and 1900 by the then Town Council—it is quaintly adorned on each parapet by four Victorian Dolphin Lamps, may I say, more attractive if the metalwork were left unpainted? According to an old worthy of the town, James Grosart, in his book “The Chronicles from Peebles Briggate” a stone with the date 1250 for its building was once set in the West wall of the ancient structure. “Chronicles from Peebles Briggate” was (?) the first book, entirely from cover to cover, printed in Peebles. It is now a rare book and was published by J. A. Kerr of the *Peebles News* in 1899.

14. PRIORSFORD BRIDGE. A delightful iron suspension structure in a style faintly Chinese which seems strange in a douce town like Peebles. This is a footbridge some few hundred metres downstream from the Old Bridge of Peebles. It stands on brick piers and is suspended by wire ropes.

The latticed metalwork and tapering end-towers are most attractive. This bridge was “thrown over” (according to the New Statistical Account of Scotland) the River Tweed in 1825 by Sir John Hay of Haystoun as an access to his properties on the opposite side of the river.

15. **CARDRONA**. A five-arched iron railway bridge.

16. At **INNERLEITHEN** there is a road bridge designed and built for the Peeblesshire Road Trustees in 1886 by R. S. Anderson—a member of a family of engineers and surveyors of long tradition in the Borders. There was probably an older Innerleithen/Traquair road bridge here as the attractive Toll House at the North end of the bridge has a date of 1830.

17. Nearby is a disused metal railway bridge of six arches.

18. At **WALKERBURN** is a four-arched bridge built in 1886. It was demolished by floods and re-built in 1913 by the afore-mentioned County Surveyor, R. S. Anderson.

19. In the county of Selkirk now—**LOW PEEL BRIDGE**. Some eight miles downstream is the attractive, single-arch bridge of whinstone rubble. It is high-rising on an unusually long mid-span and narrow in width, over a deep channel.

20. **YAIR BRIDGE**. A beautiful three-arched little bridge—high-rising on mid-span and built of random rubble and sandstone blocks. It is probably the finest present bridge to be seen in the county, built, possibly in 1764, as part of the improvements to the road between Edinburgh and Carlisle. The roadway has a width of 13 feet 9 inches and the total span of the bridge is 146 feet. Refuges are provided at both ends and above each pier.

21. 22. **THE RINK**. There are two bridges here—a modern concrete structure replaces the older, disused bridge.

23. **TWEEDBANK**. A wide, utilitarian concrete bridge, built recently to facilitate the passage of the roadway—avoiding the spreading suburbs of Galashiels.

BRIDGEND, GALASHIELS. An ancient name and an ancient crossing of the Tweed. Records imply that there may have been a bridge here in the 12th century. There certainly was one here when Gordon described and illustrated it in 1726 in his itinerary. At this spot the annual procession, of the Braw Lad and his supporters, crosses the ford—commemorating a tradition of “riding the bounds” of many hundreds of years.

24. **LOWOOD BRIDGE**. A double-arched red sandstone bridge with approaches of whinstone.

25. One of the “bridge gems” I talk about is the **GATTONSIDE/MELROSE SUSPENSION BRIDGE**. It is a single-span footbridge of timber treads, built in 1826 to allow passage between the village of Gattonside and the town of Melrose. A

contemporary account of the bridge, quoted in the aforementioned "Heritage of Bridges" says, "It is intended chiefly for foot passengers but is also calculated to admit horses". A Toll House was built at the same time to effect pontage, that is to collect one penny toll from each passenger. What each horse had to pay I have no idea! Single, castellated, stone towers rise at each end of the structure which is of 38 feet in height. These towers support four suspending chains made up of bars and links. The span is 296 feet. The masonwork by John Smith of Darnick is very fine. John Smith came of a long line of masons and craftsmen in the area and was the builder of Abbotsford for Sir Walter Scott. This lovely little bridge was put in being by a specially formed Chain Bridge Company. It was designed by J. S. Brown of Edinburgh and is the oldest example, still in use, of the work of Messrs Redpath Brown. This pleasing work is now in the care of the local authority.

26. LEADERFOOT. At Leaderfoot there are three structures to be considered. The problematical fourth?—that of the Romans under Agricola—is said to show foundation stones in the Tweed in very low-water conditions. I cannot say I have seen them. The Roman legions from the South, stationed at Trimontium, however, certainly crossed the river near this point on their journey North into Lauderdale and possibly to areas East and West.

27. DRYGRANGE OLD BRIDGE. This was closed to traffic in 1974 and those who wish can now examine, in peace, a bridge erected for the Trustees of the Roxburghshire Turnpikes by Alexander Stevens in 1778 and certainly one of his best designs. Local landowners and subscribers joined together at that time to provide money to fund the building of this bridge, managed on the Turnpike System of Road Tolls. This bridge, mainly of sandstone, shows one main arch and two side arches. This main arch, of very large span (105 feet) was unusual in design being remarkably small in thickness at the crown and at the springings. There are three ornamental voids in each spandrel. The cutwaters are an innovation for this date in Britain, being both curved and pointed in the style favoured by French engineers.

28. LEADERFOOT RAILWAY VIADUCT. This was opened to rail traffic in 1865 by a branch of the L.N.E.R. Edinburgh/Hawick line. It is a brick and sandstone structure of nineteen arches and is 123 feet in height from water level to the soffit top, i.e. arch top, the designers being Messrs Jopp, Wylie and Peddie. Lately some controversy has surrounded this bridge. It is a beautifully sited, tapered structure which blends well with its surroundings. Financial problems have beset the

maintenance of the viaduct. The slopes of the valley being steep necessitate reinforcement of the pillars by buttresses and ties, and such a position, in present economic times, must be a difficult one to maintain. The viaduct, handsome as it is, costs money.

29. The third bridge, the modern box-girder and steel, reinforced concrete bridge, was built to replace the Old Dryg-range Bridge to the design of Sir Alexander Gibb and Partners. It has a length of 640 feet.

30. DRYBURGH. An elegant metal and timber suspension footbridge put up by David Rowell & Co. of London in 1911. It is approximately 264 feet long.

31. MERTOUN BRIDGE. An unusually long and wide, five-arched bridge in pleasant red sandstone of Victorian (1841) date. The arches were originally of timber but later adapted to stone. The designer was James Slight of Edinburgh.

32. MERTOUN SUSPENSION BRIDGE. Within the policies of Mertoun House this crossing for foot passengers was built in 1927 and cost £700. A previous bridge, of flat design, was demolished by a tree. This is of graceful design but the bridge is private property and so permission to view must be obtained.

33. KELSO. We come now to perhaps the most famous, and certainly the most written-about bridge on the itinerary. Designed by that most brilliant of engineers, John Rennie, in 1799, for the local Road Trustees, it was the prototype for his Waterloo Bridge in London. On the sad destruction of that same bridge, thankfully the people of Kelso made sure that some of its fine lamps would return to Rennie's own Kelso Bridge. To-day they stand proudly on it. Kelso Bridge is a beautiful work of five fine elliptical arches each of 72 feet. It is elegant, symmetrical and forthright and to its credit the Borders Regional Council are now carrying out their agreed repairs to the bridge, replacing worn stonework etc. The bridge was built to Rennie's design by Murray and Lees and the resident engineer was John Duncan. John Rennie, born at Phantassie, East Linton, in 1761, designed not only bridges but works of all kinds including canals e.g. the Kennet and Avon Canal, and, of course, the controversial Bell Rock Lighthouse. He perfected the original design of the Threshing Mill invented by his mentor, Andrew Meikle, also of East Linton. He was a modest man—he made no effort to have his very many innovations and inventions known to the public and even refused a knighthood offered by George IV. After a lifetime of creativeness John Rennie died in London in 1821 and is buried in the crypt of St. Paul's next to Sir Christopher Wren.

34. **COLDSTREAM BRIDGE.** A handsome structure by John Smeaton and built in 1767. Smeaton was born in Austhorpe, Leeds, in 1724 and was, like Rennie, a man of many capabilities—he designed many fine bridges and amongst his works are the Forth and Clyde Canal and the 3rd Eddystone Lighthouse. He died in 1792. Coldstream Bridge was Smeaton's prototype for other bridges he built—those at Perth and Banff, for example. A crossing of the Tweed has always been vital at this point. The carriage of supplies and the passing of armies have always been important here and Parliament partly financed the building of this bridge for this reason. Smeaton's bridge has a fine symmetry, all the arches being of the same radius. The idea of a large ring on each spandrel was the overseer's, Robert Reid. His idea was adopted later by Smeaton. A problem for bridge maintenance engineers at Coldstream has always been the force of scour on the foundations. Throughout the years protection for the piers etc. against flood water has had to be given in the form of "starlings" of rubble and concrete. Robert Burns' first journey to England is recorded on a plaque on this bridge. The beautiful little Toll House at the North end was, for many years, the scene of runaway marriages and was built by Robert Reid for £27! This house was adapted by Reid as a house for himself by building out the understorey.

35. **NORHAM BRIDGE.** Of four segmental arches built in 1885. It replaced a timber bridge of 1836, by John Blackmore of Newcastle-on-Tyne. At its north end is what is perhaps a Toll House or Bridge-keeper's house. It, and its adjoining stable, have an older appearance in stonework than that of the bridge. Horses were kept here to add pulling power for the steep hill to the North when coal was being carried from Northumberland to Scotland.

36. **UNION CHAIN BRIDGE.** "The Union Chain Bridge", and I quote from "The Heritage of Bridges", "—is the oldest surviving British Suspension Bridge still carrying carriage traffic." Opened in 1820 and designed by the very important, but not much written-about, Captain S. Brown, R.N.—later Sir Samuel Brown—it gave a lead for the building of iron bar and link, chain suspension bridges throughout the world. Captain Brown, born in London of Scottish parents in 1776, died in 1852. John Rennie acted as adviser to the Trustees for the bridge and gave considerable advice to Captain Brown. The Bridge, finally was such a success that the Trustees presented Captain Brown with 1,000 guineas over and above his estimated price. Captain Brown is also credited with the building of Netherbyres House, Eyemouth, Brighton Pier, and the

suspension bridge over the Teviot at Kalemouth. Finally, the Union Chain Bridge is probably the oldest surviving chain bridge in the world, according to informed scholastic sources.

The wide estuary at Berwick is the end of my river journey of 96 miles. The Tweed has grown, on the way, from a trickle to a full-grown river. The three bridges of Berwick span a wide waterway of great power and form the traditional gateways for the passage of Scots into England.

37. **THE OLD BRIDGE OF BERWICK.** Records go back to the 12th century of bridges of timber at Berwick—the first stone bridge being erected about 1624. The designer was James Burrell and his bridge was built to a very high standard, the cost being almost £15,000. The piles of the bridge were of oak and one of the features in the fine construction of this bridge are the 3ft. to 6ft. wide “starlings” which surround the piers, necessary in this strong-current area.

38. **ROYAL TWEED BRIDGE.** Opened in 1928. At that time it had the longest concrete arch in Britain. It is a concrete structure which cost £160,000 in that year and was designed by L. G. Mouchel & Partners. Over 1,000 tons of re-inforcing steel were used in the construction.

39. **THE ROYAL BORDER BRIDGE** was designed by Robert Stephenson and T. Harrison for the York, Newcastle & Berwick Railway in 1850. This handsome bridge has 28 semi-circular arches of 61½ ft. span and its greatest height is 126 ft. over the river bed. The superstructure is all ashlar with heartings of rubble masonry and brickwork. American elm was used to build the piers. The Royal Border Bridge, my 39th of the journey, brings me to the end of my address.

I hope you, as my audience, are not footsore and wearied by my story.

THE SESQUICENTENARY

On 22nd September, 1981 the Club celebrated one hundred and fifty years of continuous healthy existence. The following telegram was sent to the Private Secretary at Balmoral:-

“Berwickshire Naturalists’ Club on the hundred and fiftieth anniversary of its foundation offers loyal greetings to Her Majesty”.

The reply, received with much pleasure, was:-

“Please convey to the members of the Berwickshire Naturalists’ Club the sincere thanks of the Queen for the kind and loyal message of greetings sent on the occasion of the foundation’s 150th anniversary. Her Majesty received this message with much pleasure and sends her good wishes to all concerned”.

A telegram was also sent to the British Association for the Advancement of Science with good wishes for that body’s forthcoming similar anniversary due a week later.

That evening a Sesquicentenary Dinner, attended by some 120 members and guests, was held in Marchmont House, Greenlaw through the kindness of Lady McEwen and thanks to the labours of a number of ladies including herself, Mrs Mackenzie Robertson (the President), and Mrs D. K. Swan (the Vice-President). In the glorious setting of the Music Room at Marchmont the Club enjoyed the following menu:

Madrilène Roi Guillaume IV 1831.
Salmis de Dinde à la Berwickshire.
Pommes Nature.
Legumes Naturalistes.
Crème Surprise Reine Elisabeth.
Club Biscuits.
Petits Fours 1981.

The Loyal Toast was proposed by the President. The toast to the Club was proposed by the Earl of Wemyss and March, K. T., President of the National Trust for Scotland; Mr Thomas Purves, the “Father” of the Club, replied suitably, including some reminiscences of over fifty years’ membership. The Reverend H. S. Ross (Librarian and a past President) proposed “The Guests”, for whom Sir George Taylor, sometime Regius Keeper of the Royal Botanic Garden, Edinburgh, replied. Thanks to the speakers and to all who had been concerned in organising such a successful and enjoyable evening were expressed by Mr T. D. Thomson (Corresponding and Editing Secretary and a past President). The spirit of the Club was summarised in a quotation from a letter from the Founder, Dr Johnston, to his friend Robert Bowman on 24th September, 1832:-

“Had I a night or two of you we should have had a glorious crack over a glass of brandy-punch, and I would like to introduce you to our Naturalists’ Club, the best society I know, far better than your philosophicals, and Royals and Linneans, for we breakfast we dine together, and laugh and joke and just go on like wise (not learned) men”.

The following morning the Club met at Grantshouse, its birth-place. A number of the more energetic members under the guidance of Mr G. B. Millican (whose report is printed below) followed the route of that first walk, by Penmanshiel over the hill to Old Cambus and St. Helens; one of the party, Mr James Hood, had covered the same ground in the centenary year, 1931. The rest of us went to Torness to inspect the construction workers' village and the rapidly-growing nuclear power station and so to link the old and the new.

“Let us now praise famous men, and our fathers that begat us” says the writer of Ecclesiasticus, Jesus the son of Sirach. Let us then remember those who joined Dr Johnston in founding the Club:- The Revd. Andrew Baird, Cockburnspath; the Revd. John Baird, Yetholm; William Baird, M.D., F.R.S., author of *Cyclopaedia of the Natural Sciences*; R. Dundas Thomson, M.D., of the Honourable East India Company's Service; Robert Embleton, surgeon, Embleton; George Henderson, surgeon, Chirnside, author of *The Popular Rhymes, Sayings and Proverbs of the County of Berwick*; John Manners, surgeon, Berwick; and Alexander A. Carr, surgeon, Ayton, author of *A History of Coldingham Priory*.

These were the founders; by the end of 1831 they had been joined by Dr Thomas Brown, D.D., of Langton and Edinburgh, author of *Annals of the Disruption*, who survived to deliver his Presidential Address to the Jubilee Meeting of 1881.

The Club has been fortunate in its officebearers. Notable Secretaries have been George Tate, Alnwick, James Hardy, LL.D., Old Cambus, J. Hewat Craw, West Foulden and, in our own time, Ryle Elliot, Birgham. The never-sought-after office of Treasurer has to some been an inspiration to longevity: the record is held by Robert Middlemas, Alnwick, Treasurer from 1871 to 1896, but the current “Father” of the Club, Thomas Purves, Berwick, gave us fifteen years of unobtrusive work as Treasurer immediately after World War II. Fortunate too has been the building-up of long family connections with the Club; one need only mention the Elliots, the Logan-Homes, the McWhirs and the Swintons in this connection.

We may not be dwarfs, but we certainly stand upon the shoulders of giants.

T.D.T.

(Note: For the Club's first hundred years and the men who made their mark then, please refer to Hewat Craw's introductory chapters to the Centenary Volume and Index.—Ed.)

ANNIVERSARY WALK

As part of the 150th anniversary celebrations a group of about sixteen followed the path from Grantshouse to St. Helen's Church taken on 22nd September 1831 by the eight founding members of the Club and repeated by a party in the centenary year of 1931. This led over Harelawside and Penmanshiel to Lady's Folly, 700 feet above sea level. From there we crossed the top of Redclues Cleugh following the old track to Old Cambus School. A further half-mile and once again we were able to pick up the old track which took us from Old Cambus West Mains past Old Cambus Quarry to St. Helen's Church.

Great interest was shown by the members in the old grave-stones at the Church, in particular those of around 300 years age with inscriptions which are still quite clear. Sadly, the boundary walls are broken down and the church considerably deteriorated of recent years.

We were fortunate to have a pleasant, dry autumn day for our expedition and specially happy to have the company of at least one member who had taken part in the centenary walk.

Three weeks later, on the morning of the Annual Meeting, the Club was entertained to coffee in the Guildhall by His Worship the Mayor of Berwick, Councillor J. S. Wall (a past President) and paid its respects to the memory of Dr Johnston in Holy Trinity Parish Church.

CIST AT MORDINGTON

During ploughing in the autumn of 1981 a cist was discovered on Mordington Mains (approximately NT 948565). Work was interrupted and the discovery reported to Mrs D. K. Swan, Harelaw and thence to the National Museum of Antiquities in Edinburgh. Mr Barber of the Central Excavation Unit went without delay to investigate. He reported that "the cist had no remains in it. After clearing the ground round about we found a pit of cist size. The soil of both cist and pit had very high phosphate content, so almost certainly had contained bodies".

All concerned are to be congratulated on their swift reaction to this discovery; would that it were always so.

NATURAL HISTORY RECORDS

Contributed by Grace A. Elliot, M.B.E.

- 30th March. A Tortoiseshell and a Green-veined White flying over the Polyanthus flowers, at Padgepool.
- 15th April. Two Small Chocolate Tip moths emerged from pupae from larvae found on 25th August 1980, on sallows near Hazelrig.
- 29th April. Cinnabar moth emerged from pupa, the caterpillar was caught on Holy Island, 1980.
- 16th June. The Ghost Swift moth. Male. This was found in the sweepings after a day's gardening at Padgepool House.
- 20th June. Barred Yellow emerged from pupa, from a larva found on the yellow Burnet rose in the garden.
- 22nd June. Found a Gray Chi caterpillar on the garden honeysuckle, it pupated soon after.
- 30th June. The white pheasant was seen on the Doddington to Fenton road between the Fenton Lodge gates and Fenton farm (Mr. Logan's farm). It was in the grass at the edge of the road and disturbed by the car, it flew into and through the hedge.
- 3rd August. Mr. J. Gledson of Weetwood Avenue, Wooler, called with a recently hatched Garden Tiger. He said that he was or had been gardener on Lilburn estate and had never seen one before. This interested me because we saw it every year at Birgham House, my old home at Birgham, although after 1968 it seemed to disappear there. I came to live in Wooler in 1976 and have certainly never seen it here, nor its caterpillar. Is it also disappearing?
- 8th August. Caught a Speckled Beauty moth which had been badly damaged, on the car port wall. Also caught a Meadow Brown in the garden.
- 26th August. The Gray Chi caught in June emerged from its chrysalis.
- 15th September. While walking from St. Abbs to Coldingham sands by the cliff footpath, saw on nettles, and caught, a longitudinally striped black and yellow caterpillar of the Broom moth, which pupated on September 25th.
- 25th September. Saw our first and only Red Admiral in the garden this year.

DR. GEORGE JOHNSTON (1797-1855)

Dr. G. A. C. Binnie

George Johnston was born on 20th July, 1797 at Simprim Farm, the 10th of 15 children of the tenant farmer. His mother was Margaret Thomson of Eccles; and in Eccles Churchyard there are tombstones of his Johnston forebears, the earliest noted being "William Johnston tenant of Ednam, and Ednam Mains, died 3.11.1699 aged 50". He went to Kelso High School for a short time, presumably from Simprim, before his father took the tenancy of Ilderton Farm, and he spent the rest of his schooldays at Berwick Grammar School which at that time had only 30 or 40 pupils, with boarding fees of £50 annually. An exhibition in his memory worth £8 annually for 2 years was instituted after his death and this is still used in Berwick High School, the successor school, to provide prizes on the 'O' level results.

MEDICAL CAREER

He went to Edinburgh University in 1813, and was then apprenticed to Dr Abercrombie until 1817 before obtaining the L.R.C.P. (Edin.) at Surgeons' Hall. He spent a term in London with the anatomist and collector Joshua Brookes, before attempting, and failing, to establish a practice in Belford. Ample compensation for this failure may have been given by the fact that he may well have met his future wife at this time. Catherine Charles was the daughter of Claudius Charles of Belford, who had been an assistant surgeon to H.M. Government Hospital, New York before the American Revolution, and Dr Johnston married her on 23rd November, 1819 in St Mary's Church Belford. In 1818 when Dr Robert Stevenson of Berwick died, Dr Johnston succeeded to his practice, initially practising in Bridge Street, and then from 35, Woolmarket, where he spent the rest of his life, the house being known after his death as "The Anchorage". perhaps to commemorate the fact that he had a share in a boat which sailed from Berwick.

He was appointed to the Medical Staff of Berwick Dispensary on 16th July, 1818 the minute reading "Testimonials of character and letters of recommendation in (sic) behalf of Mr George Johnston, Surgeon, to the office of secretary were read at the meeting and it was agreed to accept Mr Johnston's services as an extra Surgeon to the charity of which the Treasurer would inform him". In 1819 he obtained his M.D. in Edinburgh University with a thesis "De Hydrops", and in 1824 he was made F.R.C.S. with a dissertation on the subject of cancer.

It was in this early period of his medical career, when he was seeking to establish and build up his practice that he began to develop for pleasure the study of botany which had been compulsory as a student. As he pointed out in the preface to his first book, he had plenty of time on his hands as medical business was not too brisk.

The minutes of Berwick Dispensary Committee recorded the presence of Dr Johnston at its meeting on 9th June, 1831 and noted "the resignation of Dr Robertson one of the physicians who had lately left the town".

"It was therefore moved, seconded, and resolved that the office of one of the physicians to this institution is now vacant by the abdication of Dr Robertson.

"Dr Johnston therefore resigned his office of one of the surgeons to the charity to offer himself as a candidate for the office as one of the physicians.

"Resolved unanimously that Dr Johnston be, and is hereby appointed as a physician to this institution and the thanks of the Governors are due to him for his service in his late capacity as surgeon".

Later in 1831, when he was doing his 3 months term of duty as Physician to Berwick Dispensary, he had to apologise to the Dispensary Committee after leading it to the conclusion that Dr How, the Junior Surgeon, had been guilty of "shamefully neglecting" one Edward Dover of Bowsden whose complaint about his treatment had been transmitted by Mr Sitwell of Barmoor Castle. This seems a strange slip as the medical staff meeting firmly supported Dr How on what seem good grounds as recorded in the Dispensary Minutes. Perhaps there were wheels within wheels of which we are ignorant.

He became busier in his later years in practice and he could write on 8th December, 1850 to Mrs Gatty (daughter of the Chaplain of H.M.S. Victory at Trafalgar) that "a country doctor's business is a very harassing one at this time of year and I do not bear it so well as I was wont to do" and in 1852 "both my horses are weary". However, despite the increasing work he could still write "enjoyed myself at the opera".

Two years before his death he wrote "42 of his 55 years were practically engaged in my profession" and "35 out of 42 years as a doctor had been in practice in Berwick upon Tweed with less than 6 weeks holiday"; but he added "one grand holiday, work continuous but rarely severe". His obituary in the Edinburgh Medical Journal paid him the high compliment that "he never prescribed a different but similar remedy to do something for his fee", when treating a fellow practitioner's patient.

PUBLICATIONS AND HONOURS

Thirty six papers and books were listed as having been published by him, including the History of British Zoophytes (1838), the History of British Sponges and Lithophytes (1845) and the Introduction to Conchology (1850).

The first volume of this book "The Flora of Berwick", was published in 1829, the second volume a year later. In response to the publication of his book a challenge was issued offering a free copy to anyone who could find 20 plants not named. Philip Maclagan then aged 12 or 13 and a pupil at the Royal High School, Edinburgh won the prize by naming 26 such plants; he also won Margaret Johnston

and a partnership succession in the prizegiver's practice. His last published book was the *Natural History of the Eastern Borders* (1853), and at his death he was working on his *Catalogue of British Worms* which was published posthumously in 1856. These volumes were all illustrated from sketches drawn by his wife Catherine, to whom Dr Johnston dedicated *Plumularia Catherina*. In his turn Philip Gosse named *Othonia Johnstoni* after "Dr G. Johnston who may be called the father of our marine intervertebrate biology".

In 1845 he was offered the Chair of Natural History at Queens University, Belfast, and at about the same time an application for a British Museum Fellowship was supported by a testimonial from no less a world figure than Charles Darwin himself. In 1854 he was a candidate for the Chair of Natural History in Edinburgh where any disappointment at his failure to be appointed was made easier by the fact that such world famous names as Huxley and Hugh Miller also failed to be appointed.

He was Mayor of Berwick 3 times in 1837, 1840, and 1846, Sheriff of Berwick in 1843/44, an Alderman and a J.P., being the senior magistrate and senior physician in Berwick by 1852. He helped to organise the Highland Society's Show when it visited Berwick in 1841, and he was presented with a set of plate in honour of the services he then rendered. His daughter collected, and published in 1895 a selection from his vast correspondence covering some 30 years and totalling 429 letters. In addition he had several honorary scientific awards including that of Honorary LL.D of Aberdeen University.

LAST YEARS

He seemed to enjoy good health apart from a fractured rib in 1848, but on 22nd December, 1850 he wrote "I have been ill of late and cannot go out at night unless on very urgent cases".

1851 was the year in which his son-in-law died in Jedburgh, aged 27, and his son was shipwrecked with the loss of all he possessed apart from his sword. In addition, in this year mention of generally feeling unwell began to be made in his letters. He went to his house in Spittal (Ewart House, next door to the Roxburgh Hotel) for 3 weeks holiday and change of air and this greatly refreshed him after the smoke and grime of Berwick. In July 1854 he took his son-in-law Philip Whiteside Maclagan into partnership and the Maclagans lived in Ewart House initially.

Dr Embleton in his obituary wrote that Dr Johnston had been ill for the last 2 years of his life, but in view of his remarks in his letters to Mrs Gatty in 1851 one wonders if the onset of his last illness was in fact earlier. Dr Embleton commented on his lethargy often "attendant on mere functional derangement of the stomach". In the last year or two his letters comment increasingly on his tiredness and disinterest in everything. He developed a hemiplegia while convalescing at Bridge of Allan and was seen in consultation on 9th July, 1855 by Dr Douglas Maclagan, who suggested his immediate return home: the disease "developed more, his lively and fertile imagina-

tion became a blank", and he died on 30th July, 1855 aged 58. The cause of death was recorded as "softening of the brain" (certified by Dr P. Maclagan), which cannot have its present connotation as his last published letter written some 6 weeks before his death gives no evidence of any intellectual deterioration. The presumptive diagnosis would seem to be a terminal cerebral haemorrhage causing a stroke with either a preceding cerebral tumour or hypertension developing insidiously over the preceeding months and years.

His grave is in Holy Trinity Churchyard, Wallace Green, Berwick and there is a bust of him in the North Aisle of the Church erected by public subscription: around the bust are depicted foxgloves (the source of digitalis) and poppies (the source of opium), below are the words "The works of the Lord are great, sought out by all who have pleasure therein. Psalm III, v2": a fitting epitaph. In 1931 a portrait of George Johnston by T. S. Good of Berwick, a Club Member, was presented to the Club by Col. Menzies of Kames, together with an engraving of him; the latter is still in the Club's possession, but there is no trace of the former. His botanical collection, formerly in Berwick Museum, has been at the Royal Botanical Gardens, Edinburgh since 1943.

FAMILY

George and Catherine Johnston had 4 children

1. Jane, born 9th September, 1821, died aged 82 in 1903. She married the son of a doctor, R. Barwell Carter of the 8th Hussars, who died at the age of 27 in 1851 after they had been married for 3 years.
2. Margaret, born 2nd May, 1823, died 22nd May, 1874 aged 51. She married Dr P. W. Maclagan second son of Dr David Maclagan, Physician to the Forces, whose eldest son became Archbishop of York.
Dr Maclagan died in 1892 aged 72 being commemorated by the statue outside the main entrance to Berwick Infirmary. He was succeeded in the practice in turn by his son Charles and his grandson Philip, who died in 1977 aged 91, having retired in 1958.
3. Patrick, born 28th January, 1825, died 11th September, 1890 aged 65 in Dunedin, New Zealand. He became a Commander in the Royal Navy and was a member of the Berwickshire Naturalists' Club; he was a bachelor.
4. Catherine, born 26th July, 1826, died 5th February, 1856 aged 29, having been a cripple all her life. The cause of death was given as "derangement of heart's action from curvature of spine and contraction of chest for 23 years; and anasarca for 6 weeks".

Dr Johnston's widow Catherine died at the Anchorage on 22nd April, 1871 aged 77, the eldest daughter Mrs Jane Barwell Carter living in the house until her death in 1903. In the latter's lifetime it became the custom for the Annual General Meeting of the Club to be followed by an evening at the Anchorage.

THE BERWICKSHIRE NATURALISTS' CLUB

The foundation of the Berwickshire Naturalists' Club was first tentatively proposed to the Rev. Dr. Thomas Brown, then a student, and the Rev. Andrew Baird in the winter before the plan came to fruition on 27th September, 1831, with its first meeting at Grant's House. This was one week before the inaugural meeting of the British Association for the Advancement of Science in York which was attended by Dr Johnston himself. Dr Brown said in his presidential address in 1881 that "all looked up to Dr Johnston he was the life and soul of all that was done". Dr Embleton in his obituary in the *Edinburgh Medical Journal* of 30th January, 1856 spoke of Dr Johnston "The founder, the life and soul of our Club"; and in his 1851 presidential address the Rev. Dr. Gilly spoke of the Club "which he (i.e. Johnston) established 20 years ago, and which has flourished more and more under his watchful and genial auspices". From these references and from the regard in which he was held in the Club's affairs as seen in his correspondence and the early volumes of the Club History it is obvious that Dr Johnston was the Club in its early days and without him there would not have been a club.

CONCLUSIONS

At the time of his death, the wider academic world recognised a leader in the field of natural sciences but that recognition has proved ephemeral. The citizens of Berwick and his medical colleagues recognised him as a physician and a counsellor, but all that remains of their regard is his bust in a corner of the Parish Church.

His family, usually the most enduring of what a person leaves behind, was continued in the line of the 3 generations of the Mac-lagans, but all his descendants have now left Berwick.

However, he has a lasting memorial in the Berwickshire Naturalists' Club, that happy, cheerful and genteel memorial which has acknowledged its debt to him for 150 years, and whose future now lies in our hands as we seek to follow his example to study the natural history of Berwick and its vicinage.

Material for this biography was obtained from the following sources:—

History of Berwickshire Naturalists' Club Vols. I, III, IV, VIII, IX, X, XIX, XXVII, XXIX, Centenary Volume.

G. Johnston: Correspondence, 1895.

Berwick Dispensary Committee Minutes 1815-1855.

The Flora of Berwick, Johnston G. Preface.

Dr Johnston's own Laennec stethoscope kindly loaned by Dr & Mrs J. H. Mitchell was on display at the Annual General Meeting on October 14th 1981, together with a display prepared by the Librarian.

JAMES A. EDGAR, M.A., B.A.
PRESIDENT, 1979-1980

James Allan Edgar, who died on 15th February, 1981 aged 72, was born at Gattonside near Melrose. He had a distinguished academic career, taking First Class degrees in mathematics at both Edinburgh and Cambridge Universities. While at the latter he was awarded a Senior Isaac Newton Studentship for research, and he worked for four years in the Cavendish Laboratory under Rutherford. After teaching mathematics for a time at Marlborough College he became one of H.M. Inspectors of Schools; in this capacity it has been said of him that "he was determined but not aggressive, spoke ill of no man, his visits were both welcome and a pleasure. When he left a school the responsible staff felt their problems would not be forgotten and their troubles would be mitigated, if humanly possible".

Mr Edgar's particular professional interest was in Navigation Schools, for which he did much. He also worked in the Colombo Plan and other overseas assignments. When he left the Inspectorate he became the first Secretary of the Council for the Accreditation of Correspondence Colleges, and made it viable in three years. He finally retired in 1974.

For many years Mr and Mrs Edgar and their daughters had holidayed at St Abbs and they decided to settle in the area, with which he had family connections, so they built a house in Coldingham. Mr Edgar's keen concern with all local matters was soon evident, as were the results of the hard work which he and his wife put into their new garden. They joined the Club in 1974 and took part with enthusiasm in all our activities. Mr Edgar's own interests could be summarised in the Club's motto—the land, the sea and the heavens—and he enjoyed arranging special meetings for anything from an inspection of rare breeds of domestic livestock to boat trips around St Abbs Head. One especial pleasure was to encourage young naturalists in their pursuits.

Latterly Mr Edgar was not a well man, but this did not diminish his enthusiasm for the Club and all its works. With his wife's unobtrusive support he led us well during his Presidential year, and his Anniversary Address was delivered with the quiet courage and determination that were so characteristic of him. He is much missed in the life of the Club and we are so thankful for him.

T.D.T.

EXCAVATIONS AT ST. ABBS HEAD, 1980

The archaeology of St Abbs Head has long needed investigation, both for its own sake and in relation to the major monastic site at Coldingham Priory. In the autumn of 1980 Professor and Mrs Alcock, Glasgow University and their team spent three weeks on the Head, and we are kindly permitted by them to quote from their interim report:

Limited excavations were carried out in September 1980 on two sites near St Abbs Head in an attempt to locate the Early Historic fortification implied in the 7th century place name Colodaesburg. At Rampart Ha' (NT 911694) the defences were found to be unfinished. An internal building appeared to be secular rather than ecclesiastical. There were no datable finds, but a late medieval date seems likely. At Kirk Hill (NT 916687) a cliff-edge site of some 3 ha. had been enclosed by either a double palisade or two successive palisades. This was overlaid by a massive turf rampart, with a toe of dressed blocks. There were no closely datable stratified finds; but a *terminus post quem* is given for the inner palisade by a calibrated C-14 date of 630-770 AD. This might imply an Anglian construction, but in a British tradition. The turf rampart is, of course, later still, and may be the monastic vallum of St Aebbe's monastery.

A copy of the complete interim report is held in the Club's library.

COLDINGHAM PRIORY EXCAVATIONS

In 1970 and 1971 excavation in the Abbey Yards field immediately East of the present parish church of Coldingham revealed what had apparently been a civil cemetery, containing the remains of a number of men, women and children. The discovery is reported upon by Dr Noble in HBNC XXXVIII at p. 208 and HBNC XXXIX pp. 18, 19, and illustrated by a plate after the latter reference.

A quantity of the bones were removed for expert examination (the report on which is still awaited). These have now been returned and reverently reinterred in an area approximately 20m. due east of the northeast corner tower of the present church.

Members are reminded that they may bring guests to any of the meetings for a fee of £1.00 per guest, payable to the Treasurer.

OCCURENCE OF LUNAR HORNET CLEARWING MOTH IN ROXBURGHSHIRE

A. G. Buckham

To many people interested in butterflies and moths there are these mystery species that only other people seem to see; such is the case with the Lunar Hornet Clearwing. In 1838 the complete cycle of this moth was observed at the Hirsell, Coldstream by Dr. Douglas, from Ayton woods in 1876 two specimens were taken by S. Buglass, and in 1925 George Bolam considered this insect to be generally distributed. Such were the observations and records from 1838 until 1925 for Berwickshire.

Dr. A. G. Long made more detailed observations and in 1956 saw the larvae in Willow near Woodheads farm, he also saw new borings in Sallow at Duns Castle Estate. On 4th March 1957 S. McNeill observed borings in Sallow at Nab Dean.

These records suggest that the insect is as G. Bolam states 'generally distributed' in Berwickshire, but in Roxburghshire the only record I can find prior to 1974 is from the list of lepidoptera compiled by Adam Elliot who stayed at Samieston near Jedburgh and he gives no location. William Grant Guthrie of Hawick (1898) makes no mention of finding this moth in his district. The insect does not look like a moth but more like a wasp with its black and yellow body, transparent wings and wasp like actions. It buzzes as a wasp and if annoyed arches its body as if to plunge a sting into its tormentor—but it does not possess a sting and is absolutely harmless. All these actions are a means of survival and here the deception of mimicry is being used by a harmless insect to imitate a well known stinging insect. The life history of this creature is indeed fascinating and covers a two year cycle as will be seen from my following observations.

In 1974 while employed as Forester at Wells Estate near Denholm a task in hand was the clearing of the scrubby undergrowth from a stand of Sitka Spruce at West Lees; being in a sheltered position this work was carried out during February when other tasks were hampered by severe weather conditions. It was here that my attention was drawn to some small stems of Goat Willow (*Salix caprea*) which had a hole bored up the centre; on splitting a stem open a white larva was found in the tunnel it had bored. Several stems containing larvae were cut into lengths of about two feet, and taken home to be split open then bound together with Cellotape, thus making it easier to observe the life cycle; the stems were now housed in a bucket of damp sand to keep them fresh. From the size of the larvae I now know they were in the second year of their life, but at this time they continued to bore up through the stems until early June when they turned at right angles and bored outwards. On reaching the bark a round perforated hole was cut but a hinged side was left at the top of



Larva of Lunar Hornet Clearwing



Pre-constructed exit



Lunar Hornet Clearwing Moth

the hole: The larvae then returned to the centre of the stem and continued to bore upwards until mid June when each larva started to construct a cocoon cell at the top end of its tunnel; within the cell it turned head downwards and proceeded to pupate. One of several perfect insects emerged on 7th July when it crawled down the tunnel still dragging the pupal case towards the perforated circle it had cut in the bark earlier in its life; on reaching this it pushed the trapdoor open and squeezed through leaving the pupa case stuck in the hole thus allowing the insect to crawl free. It now sat on the outside of the Willow stem and dried its wings which by this time were expanded.

The females fly to the foliage of the Goat Willow usually during mid morning on a hot July day and after mating lay their eggs on the base of the sallows; when the larvae hatch they bore into the stem and the two year cycle starts all over again. All this activity is going on inside the stem of the Willow so therefore it is not surprising that many have never seen nor heard of this moth. Young stems of Goat Willow grow in many local bogs and damp woodlands and although W. Grant Guthrie did not record the species from Hawick and District this does not mean that it is not present but it seems that more observation is needed to find the locations of *Sphecia bembeciformis*, the Lunar Hornet Clearwing.

Mrs Hedley, River House, Kelso reported that between 22nd and 26th June a Turnstone visited the Cobby, Kelso. As there had been strong winds at that time and it was alone she feared that it had been carried inland. Its plumage, in comparison with a picture, was rather pale, which may have indicated youth. It was generally walking on the grass but she also saw it swimming in Tweed, always alone.

Dr Davidson, Tigh-na-Bradán, Kelso reported that in each May for the past five years he had seen the Yellow Tip Butterfly near Kelso, at Makerstoun, Roxburgh Castle, Sprouston Dub and Lochton. This year (1981) he had seen it at Upper Makerstoun, Lower Makerstoun and Sprouston Dub, with more specimens than in any of the previous years.

NOTES ON THE HISTORY OF CRANSHAWS CASTLE

Donald Buchanan Robertson QC

Note: A concatenation of circumstances led to these "Notes" appearing in Vol XLI, Part IV, with many errors of reproduction. They are now re-published with humble apologies to the writer—Ed.

It seems somewhat pretentious to dub the tower of Cranshaws, 'castle' since it is, and may always have been a small and simple free standing tower, but so it is consistently described in documents and maps from at least the 16th until the 20th century. I note however that in the latest ordnance survey of 1976 it is relegated to "tower".

The precise age of the present building is open to argument. Simple keeps are often difficult to date but despite the attribution to the mid 16th century by McGibbon and Ross in their "Castellated and Domestic Architecture of Scotland", there are clear documentary references to a place of strength and importance at Cranshaws very much earlier and at least some of the basic architectural features of the present structure argue in that direction. The commonest features of late border towers are noticeably absent. There are no turrets, bartizans, elaborate corbelling, gun emplacements or shotholes for gunfire and notably the tower is innocent of any sign of stone vaulting; its four floors are and apparently always have been beamed from side to side. Plainly there have been alterations to windows and ceilings of 16th to 19th century date and it is probably impossible to assert with any confidence how much of the building in its present form is 15th century or earlier.

In documents as early as 1442 reference is made to the "ancient" manor house or chief place of Cranshaws and this seems to indicate that there was a house of strength and feudal importance perhaps as early as the turn of the 14th century.

The tower's geographical position, commanding the upper valley of the Whitadder, which was a main military route South over the Lammermuirs to the historical assembly point for the Scottish host at Ellem, must have made Cranshaws a fortalice of some strategic significance. The army assembled at Ellem before Flodden and no doubt some defeated survivors must have passed the walls of Cranshaws on the sad road home.

As is indicated in "The Swintons of that Ilk" by George Swinton and the previous article on Cranshaws in volume XXXVI of the Club History, the castle was probably built or at least fortified by the Swintons who held it for over 300 years. They appear to have been a very active military family and for a time held posts as Wardens of the East Marches. By tradition Sir John Swinton of the early 15th century, who probably built or fortified the castle, participated in the

slaying of the Duke of Clarence at the Battle of Beaugé in Anjou in 1421 during that extraordinary campaign when a strong Scots contingent under the Earl of Buchan defeated the Burgundian faction who were supported by Henry V of England.

The story of James VI's visit to Cranshaws in about 1598, with the suggestion that it was he who gifted the Coat of Arms now erected within the present church, is told in the aforementioned club article and it is pointed out, correctly, that the form of the arms is of the time of James IV. It is interesting however that there is in the published accounts of the Lord High Treasurer a reference to a visit by James IV to Cranshaws in 1507 on a hawking expedition and to his presenting gifts to the "priests of Cranshaws". It is tempting to speculate whether he in fact gifted the arms or lodged at the Castle but certain it is that he lost a hawk for in the accounts a few weeks later there is a payment to "the man who found the King's lost hawk in the Lammermuirs".

The previous article in the Club History also refers to the raid on the castle in 1544 and the original record of this is in the form of a letter from Capt. Thomas Carlyle to the Earl of Shrewsbury. Carlyle reports that he "was in Lammermuir at a castel called Cranshaws Castel belongyn to the Lord of Swinton being Warden of the Est Marches with xxx of the best horstmen we could gett"

It seems likely that the castle was attacked and probably burned more than once and certainly the interior shows few early features. Happily the exterior has not been radically altered or added to over the centuries and the recent renovations my wife and I have carried out have attempted to restore at least something of the early layout of fewer but larger rooms from the Victorian sub divisions of the 19th century.

EXCAVATIONS AT THE HIRSEL, COLDSTREAM, BERWICKSHIRE 1981

ROSEMARY CRAMP

Professor of Archaeology, University of Durham

The third season of excavation on the site of the Early Medieval church and cemetery concerned itself with the following problems:—

(a) The extensive sampling of all phases of the cemetery to the north of the church and the relationship of the cemetery to the northern, eastern and western perimeters.

(b) The comparison of the cemetery layout and grave-markers south and north of the church.

(c) The elucidation of the type and date of domestic occupation to the west of the church.

The area opened in 1980 was therefore extended by (Fig. 1):—

(1) A 5×10 m strip to the east of 205/850.

(2) A cutting down the terraces to the east of the cemetery platform.

(3) An area 10×14 m west of 196/820 to the south of the church complex.

(4) A 7×14 m area (825).

(1) *Cemetery Perimeter*

In this area the dry stone wall which followed the natural contour of the ground and which formed the northern perimeter of the cemetery platform was traced for a further 5 m. There were clearly different types of construction in this wall, part of which is of stones laid horizontally, part of orthostats with rubble filling. This wall is on the same alignment as the church complex, and it seems to have been in a ruinous condition by the fourteenth century. The mortared stone feature (295) was built over its collapse and could be of the same date as the latest phase of the domestic structure to the west of the church since its mortar and stone types were similar but it included a lot of re-used worked stone. 295 post-dated 10006, a layer of neatly squared stones, which had survived in an intact state under it, although in 1979 some disturbance was noted (113). This paving could be contemporary with the earliest phase of the cemetery enclosure or could have been a yard-like feature associated with the structure 236 which pre-dated the walled enclosure. A track from the west crosses the River Leet by a modern bridge just opposite this area of the site, and follows a steady incline to the top of the hill. In both the 1980 and 1981 excavations, the areas 205-208-855 yielded a quantity of domestic debris which appears to date to the 11th-13th centuries. This included pottery, knives and animal bones.

Pottery of a similar date was found in the core of the dry stone wall and it is possible that a dry stone hut, similar to 236, was pulled down to form a stone wall to the north of 299 and that some of the domestic debris was cleared with the stones in order to form the wall, although

some survived on the hut floor. Later ploughing has moved the material slightly but the concentration of finds in this region is indisputable and their distribution does not suggest a rubbish pit. The reason for a more permanent cemetery boundary at this point only could be because stone was easily available or because this wall served another function: to enclose something to the north of the cemetery such as a garden, small field, or even an animal pen. It may be significant that burials which may be assigned to the 12th-13th century phase of the cemetery's use seem to respect this area. However, it has yet to be demonstrated that there are no earlier phases of burial below the mottled sand level which was reached at the end of the 1981 excavation.

(2) This cutting was designed to section the upper two levels of the ploughed out terraces which had shown as distinct high readings on the resistivity plot. An area 3 m N-S and 15 m E/W was laid out from the line 211/834.5-211/839.5 to provide an east to west section right across the cemetery platform. (This was not the area of the most distinct peaks in the resistivity plot of the terraces).

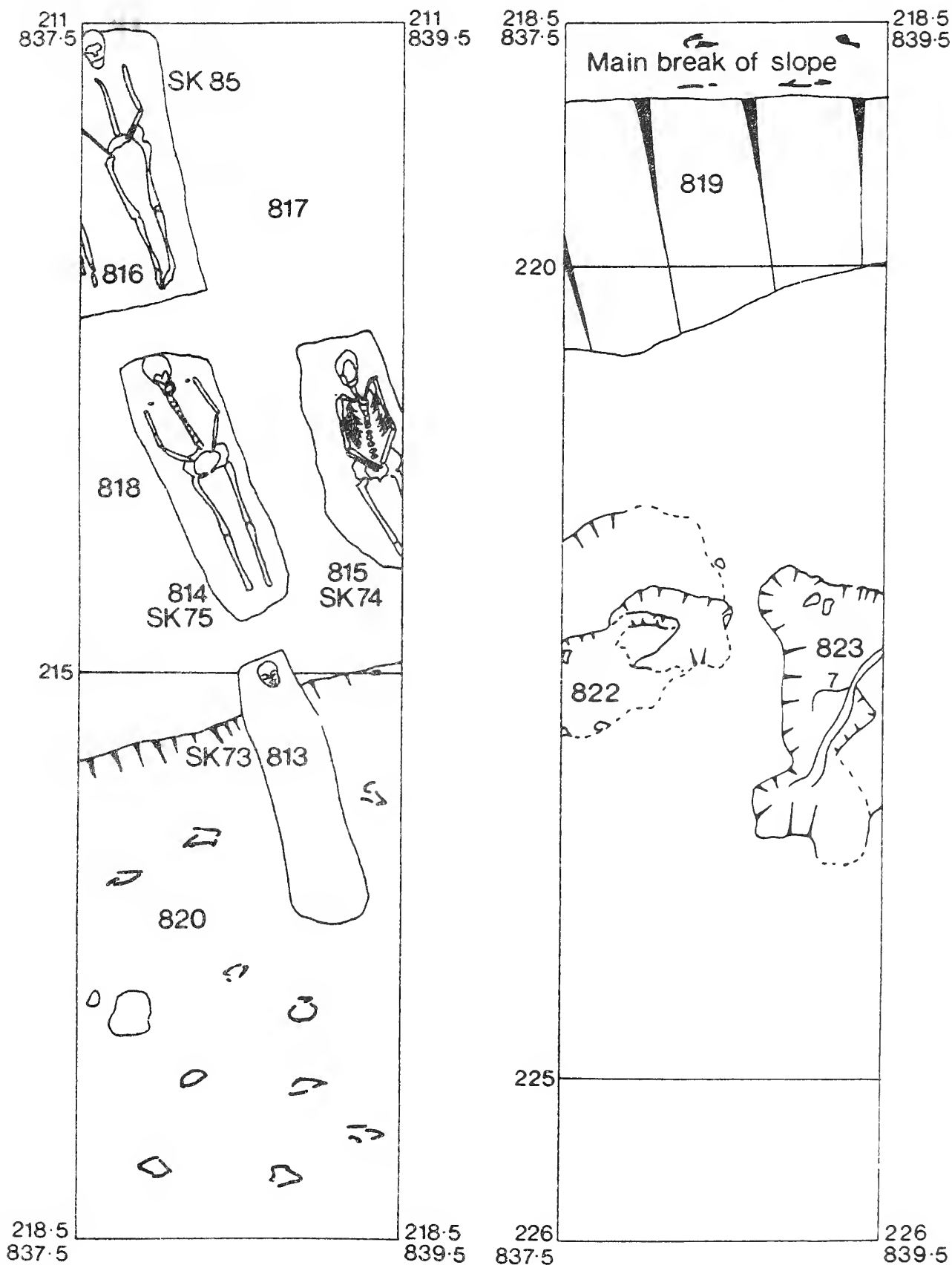
The removal of the top soil revealed two distinct stony areas which might have explained the anomalies on the resistivity plot, the most westerly (801), which continued the spread which covered the cemetery elsewhere, finished in a distinct N-S. line. The more easterly line of stone (802), further down the slope, was aligned more clearly, WNW, and seemed to follow the 'terrace' visible on the surface. Neither of these features developed into walls or revetments or palisades and the area west of 802 proved to be part of the cemetery, (see fig. 2). However, in this area the sandy tilth or the cemetery covered a heavy red bolder clay overlying a dense grey clay; these appear to have formed through natural processes. Any demarcation of the cemetery on this eastern section was extremely elusive. A shallow depression at the westernmost edge of the clay and stone band (802) may be the ploughed-out setting for a hedge—certainly the burials ceased at this point. Skeletons were excavated in this area and there were two clearly separated levels of burial. None of these burials on the 'terraces' seemingly belong to the earliest cemetery phase.

The Cemetery

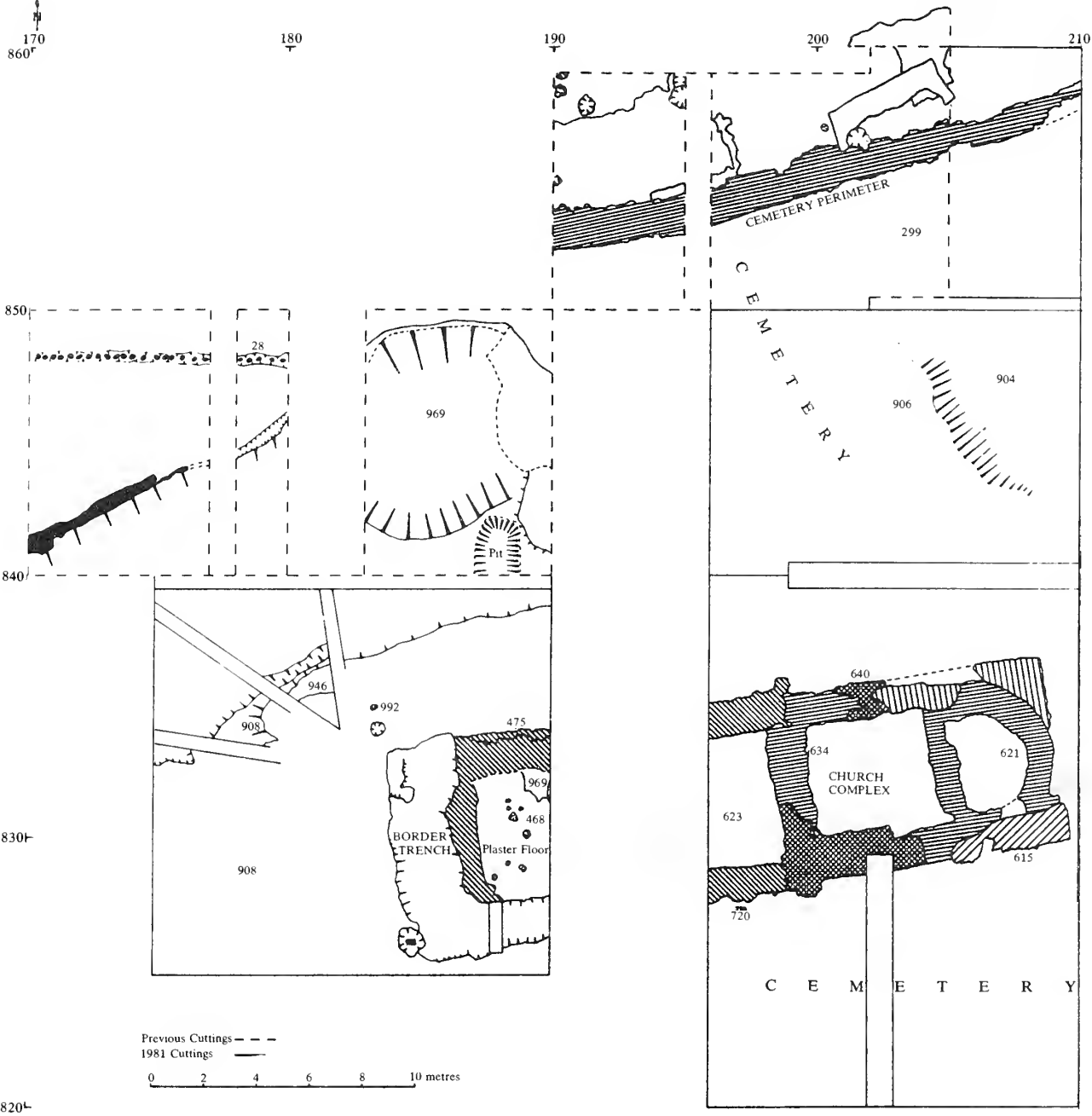
The burials to the north of the church in the areas opened in 1979 and 1980 were extensively sampled and the contours of the cemetery tilth established to the undisturbed sand and gravel which forms the capping of the ridge. The ground slopes away in all directions from the hill-top and it proved difficult to determine the stratigraphic sequence of all the burials especially those cut into the sandy earth of more disturbed upper layers of the cemetery. However in the lower levels, where the graves had cut into clean sand, or on the terraces, where the grave cuts were in clay, they were easily distinguishable. A cemetery analysis,¹ taking into account stratigraphy, absolute depth and orientation, has isolated six groups, some of which may be

¹ Undertaken by Ian Riddler.

HIRSEL 1981 Area of Terraces



THE HIRSEL 1981



assimilated when the area to the south of the church has been more fully excavated.

The earliest burial on the site may be an enigmatic single head located in an area otherwise very empty of burials 850/205-10. However the earliest group to the north of the church, which are assigned to the eleventh to twelfth centuries on the basis of one C14 date and pottery dating, are not marked by head and foot stones although one body's head was pillowed on a stone and several graves appear to have been outlined or marked with small cobbles. These graves are aligned on the church and northern cemetery wall.

A higher group on a different alignment are distinguished by simple grave markers of head or foot stones. This group represents a considerable opening up of the cemetery to the north and an extension eastwards. They may represent a phase of quite long duration but they appear to be carefully aligned in rows which usually respect the earlier burials. This phase may be dated on the evidence of pottery and C14 dates to the twelfth to fourteenth centuries. Many of the small unmarked head and foot-stones would, however, have been visible on the surface of the cemetery up to the period when it was ploughed in the seventeenth century.

Groups 3 and 5 may represent the medieval period of the late thirteenth-fourteenth century. These groups overlie earlier groups and contain several children who are buried close to the sides of the church.

Group 6 represents a phase when the church had gone out of use and some burials in this group post-date the destruction of the domestic structure to the west of the church. One skeleton in the later levels south of the church had been buried with a small leather and cloth bag which contained two coins, one silver and one bronze. These are in course of conservation, but one has been tentatively identified as dating to the reign of James VI (1588). Obviously the cemetery phasing is very tentative, especially concerning the relationship between areas to the north and south of the church, and the dating of the groups must depend on the further excavation of the area south of the church, and of the church itself, as well as on further C14 dates.

The area to the south of the church was much more closely packed with burials than that to the north. Several bodies were covered by flat unmarked slabs and one could have been described as a cist burial. However like the crouched burial (14) discovered in 1980, it is possible that burial modes, which might otherwise be considered early, may have survived well into the medieval period. The carbon 14 date of the crouched burial is 740 b.p. \pm 125.

The re-use of the cemetery, apparently after a break in the sequence, could well date to the sixteenth to seventeenth century and may be comparable to the use of the cemetery at Hepple (Northumberland).

The Church

Little further work was done on the church this year beyond establishing the plan of its latest phases.

It seems clear that the earliest feature is 627 and the foundations to the west underlying the small cobbled foundations which are associated with the apse of building 621/624. The next phase of building is marked by walling (708 and 640) and represents a new use of the nave of the church. Finally a building was attached to the west end of the church (720 and 54). The walling of this adjunct is wider and marked by a distinct style of mortared construction. A fragment of stone with incised interlace (which could be of any date from the eighth to tenth century) was built into the southern wall. The area between the walls was covered by a heavy layer of burnt timber, nails and domestic debris.

The Church Summary

Some of the differing types of construction could well be different levels of one phase; for example 640 703 could be the superstructure for the apsidal ended church, constructed of small well sorted cobbles contained by 624-621. However 615 clearly represents a rebuilding later than the apse phase and 627 is equally clearly cut by the apsidal east end. All of these different walling types respect the same outline area.

Walls 54 and 720 are of mortared and split stone and are of one construction from foundation to above ground level. This construction is markedly different from that of any walls in the church to the east. The strange socket-like feature in the cord of the apse, which was illustrated in last year's report still requires explanation. At the moment the destruction of the western adjunct appears to date, on pottery evidence associated with the burnt debris, to about the fifteenth century.

There seems to have been a large scale clearance of large tooled stones from the site in the seventeenth century. Some of these were dumped alongside the pit 569. There was another major clearance of large dressed stones in the 1977 ploughing. In neither case however is it possible to say whether the stones were originally part of the church or the western adjunct.

The addition of the western adjunct can only be dated to a period after the construction of the interlace incorporated in its walls. However the apsidal ended church would seem to fit best into a date from the late eleventh to early twelfth century (cf. Old Bewick).

Despite the slightly different alignment it seems probable that the building of which the west end appeared in the westernmost cutting is the same structure as that joined to the church. The west wall of this structure appeared to have been rebuilt and the plaster floor (463) had been re-used perhaps in relation to this last phase. The floor seems however to have been laid in relation to the earlier stone phase (475). The domestic nature of this structure is confirmed by the pottery, spurs and arrow-heads which were discovered in 1980 and 1981. It appears to stand on its own platform delineated, as revealed in the North West quadrant section, by a shallow ditch-like feature and possibly a timber enclosure. Only a small section of the occupation platform was excavated to natural, but the discovery of a

fragment of a Romano-British bracelet in this area seems to indicate earlier occupation here than the stone adjunct to the church.

It is difficult to find good parallels for the domestic adjunct to the church in excavations from southern Scotland but the manor and church complex at Raunds in Northamptonshire provides an English parallel.

Summary and Prospect

This season's work has established the limits of burial on the north and east of the cemetery platform, and some progress has been made in establishing a burial sequence.

It is important to relate the early burial area to the domestic structure to the west of the church and to establish a western perimeter. It would be useful also to establish at a future date the extent of burial to the south of the church.

In the immediate future, however, the sequence of burial must be determined to the south of the church and the problem of the church phases and the relationship of the earliest phase to the burial ground must be solved. Some attempt to group the burials into 'generations' will have to be made when the area south of the church is extensively sampled.

The nature of the domestic structure on this part of the site and its relationship to the church in all its phases must be a priority. It may not be possible to relate directly this burial ground to the community that it served, especially since field prospecting has revealed considerable evidence for medieval settlement further west in the field. However the church and possibly 'manor-house' form a unique group in southern Scotland, and are sited in a prime position on the ridge.

The excavation was funded by the Scottish Development Department, The Douglas and Angus Estates, and the University of Durham.

Supervisors were Rachel Newman, Gareth Binns and Neil Beagrie. Site assistants, Roy le Hegarat, Ian Riddler and David Montgomery. Finds supervisor, Rebecca Payne.

I am grateful for the continuing support of the following specialists: Michael Alexander, Arnold and Priscilla Aspinall, F. and G. Bettess, Philip Clogg, Keith McBarron, Tom Middlemass, Susan Mills, Harvey Watt and Trevor Wood.

WANDERERS ON THE ROADS IN 18th CENTURY NORTHUMBERLAND

ETHEL H. APPLEYARD

St. Michael's Parish church, Alnwick, possesses a Vestry book for the years 1768 to 1786, which gives some interesting information about the work of their Overseers of the poor whom by law they had to appoint and supervise. Their accounts are so detailed that from them one obtains a composite picture of life amongst the very poor, two centuries ago, in north Northumberland.

One of the strangest features of the record is the continual stream of people passing in and out of Alnwick along the Great North Road. This incessant migration was an effect of the Settlement Act of 1662. Its intention was to confine paupers to their place of origin, thereby preventing them from drifting to a more promising place, and by their influx swelling its poor rate. So it provided for the removal within 40 days of any newcomer, even likely to become a charge on the rates, and for his return to his former abode. Henceforth each parish not only tried to drive away any poverty stricken stranger, but also to resist the return of its own paupers in order to avoid the expense of their maintenance, and litigation often ensued.

The Vestry book gives much evidence of the numerous journeys of the poor, and of their being carted about by the authorities but it is not always explicit. Sometimes the Overseers may have wished to help people going to work on farms, e.g. "Paid to John Horsley for carrying a hind 8s-0d." (1781) or "Conveying Duncan's wife to Hogg's 8d." (1774) Again they may have wished to help people to get work in the then thriving city of Newcastle e.g. "Carrying Thos. Potter, his wife and six children to Newcastle £1-1-0d." (1781) It would have been clearly in their interest to make these payments.

However some of the removals were undoubtedly compulsory. Thus "To Hector Cotton when sent away home 3s-0d." implies provision for a journey certainly not of his choosing. Another entry "To Jane Proudfoot conveyed out of town, and given 6s-0 to go to Scotland" reveals a lack of interest in her eventual destination, provided that it was over the Border! But the Overseers had more trouble in the case of Will Stevens. In 1784 the Clerk to the Vestry had to ride to Duns in order to ascertain the facts about Stevens's settlement. The outcome must have been satisfactory, from their point of view, because they were able to have him conveyed to Buckton Burn at a cost of £1-7s-8d. In 1785 they made a clean sweep of 'illegal immigrants' when they paid John Cowan (a constable) 1s-0d. "for searching the lodging houses and then discharging the beggars out of town".

The Overseers were not squeamish about removing women in an advanced state of pregnancy, or newly delivered of a child. In 1778 "Conveying a woman big with child to North Charlton 2s-0d." and in 1780, "Elizabeth Whitely, great with child to Newton, 1s-0d." illustrates their determination to avoid a double burden on the rates. Sometimes they were too late, and had to pay a midwife for her services e.g. "Jane Colledge lying in, for the midwife, and removing her and her child to Newcastle £1-11s-0d." Perhaps the worst case occurred in 1782 when they paid "for the lunatick woman lying in, being delivered at Warenford, 15s-0d." Then a fortnight later they paid again for "Removing the lunatick woman with her child to Newton 2s-6d."

It is not surprising that the Parish was equally resolute about getting rid of those with a number of children. In 1778 they paid £1-13s-0d. for "conveying Thompson and four children to Kelso" and 3s-0d. for "conveying a woman and five children to Felton". The seemingly most heartless case was that of Widow Hamilton, who in 1783 was sent to Newcastle with her eleven children 'for poor relief' and given only 6d. to help her on her way.

At times they appear to have sent children away from their parents. A shocking entry reads "Paid to Anne Dickinson to quit the parish of her child £1-1s-0d." Another was "For removing Anne Crowbie's daughter to Duddo 8s-0d., and another "Removing Anne Waterson's child to Haydon £1-8s-0d." Unfortunately there is no explanation, and one can only speculate on the validity of the legal grounds for separating mother and child. Neither is there any indication of the feelings of the persons involved, but when one reads that in 1786 they removed Mary Bradley's daughter from Berwick, "at sundry times", it seems evident that for some reason the girl objected to the process, and tried to return to Berwick.

Some removals were also the cause of legal disputes. The Overseers recorded that in 1778 they "spent at Wilson's" (who was a lawyer) 1s-9d. "on Short's affair". The sequel was "the removal of John Short and his wife to Kyloe for £2-12s-3½d.", two months later. In 1780 they paid £1-1s-0d. to G Brown (another lawyer) as a retainer on the appeal of Doxford parish against Alnwick in the case of Widow Sandilands. The lawyer also charged them 8s-0d. for subpoenas to witnesses, and for serving them. Then they had to pay £2-11s-0d. for the "costs and expenses of our Clerk going to Doxford". Finally they were able to convey Widow Sandilands to Doxford at a cost of 3s-6d. Their satisfaction at the outcome might have been tempered by the reflection that by pauper standards of the time, £4-11s-0d. the cost of the proceedings, would have kept Widow Sandilands for two years.

Some cases illustrate the other side of the coin, the attempt by Alnwick parish to resist the return of its own poor persons. In 1782 they paid £1-14s-8d. to yet another lawyer, "Mr. Selby, on the appeal to St. Luke's Middlesex against remitting Margaret Grey to us". Unfortunately there is no indication in the accounts of whether the appeal succeeded or not. However a similar effort in 1788 failed, they had paid "J. Shepherd 5s-0d. to serve notice at Wooler against

the removal to Alnwick of Jane Young". They then made an investigation into the case, for they paid "R. Jury 5s-6d. on Jane Young's Inquisition". Nevertheless, a month later they had to pay "the carter to bring her to Alnwick 1s-6d." The poor woman died some months later in the Poorhouse, for there is a reference to "a coffin for Jane Young 5s-0d."

As in the case of Jane Young the method of transport was usually a cart, and sometimes, as in her case, this is made explicit, as for example in 1777 "Robert Anderson on a cart to Ancroft 1s-0d. and to Thos. Strother for the use of his cart 1s-0d." However there were other means of conveyance. Sometimes an official was sent on horseback with a woman riding pillion. In 1782 John Hunter was paid 5s-3d. for "horsehire to Morpeth with Jane Scott". Again in 1784 "Elizabeth Reilly was removed from Lincoln with a Horse Pass for 5s-0d." Incidentally she was also given a pair of shoes for 3s-6d. Hers is not the only case of a long journey. For example, in 1785 they gave Catherine O'Reilly £1-1s-0d. "to support her and John Patterson on the road to London". (This is a curious entry for it sounds as if the woman were the dominant partner!).

Surprisingly, there is twice mention of a chaise, the fastest and also most expensive form of transport. In 1778 they hired a "chaise for removing McEwen to the Belford Turnpike" (part of the Great North Road). They gave the driver only 1s-0d. but paid the then lavish sum of 13s-6d. "for refreshments." This is an altogether puzzling entry as one wonders why there was such need for haste. The other entry, however speaks for itself. It runs, "1779, Paid the chaise hire from Lemmington to Rothbury with a lunatick, 7s-0d."

At the beginning of the period covered by the Vestry Book the Settlement Act had been in force for over a century, so it seems surprising that Parliament had not realised the inefficiency, frustration and unnecessary expense to which it gave rise; effects that seem obvious to the modern reader. Indeed one may pardonably assume that the only beneficiaries were the lawyers, who were kept so profitably employed in interpreting its provisions.

The continuance of vagrancy throughout the period shows that the Act had failed to stop gypsies or other travelling people, professional tramps or incorrigible drifters from moving in and out of Alnwick in their wanderings. On the other hand it did hamper the mobility of labour. As would-be employees arriving in the town had to find a job within 6 weeks, or be ignominiously sent home, many of them must have thought it would be better to 'come on the rates' where they were known and acceptable, and so remained in their birthplace.

The Act undoubtedly caused hardship to many individuals, and in some cases much suffering, but that must have troubled the authorities and the general public much less in the 18th century, than it would to-day among people accustomed to the beneficence of the Welfare State.

CONTRIBUTIONS TO A FLORA OF BERWICKSHIRE

M. E. Braithwaite

Available records are given for some vulnerable species for which A. G. Long's field and literature records have recently been reviewed. These are all species for which additional information would be especially welcome.

Numbers refer to Ordnance Survey 10 km squares. The prefix NT has been omitted. Records made or confirmed by C. O. Badenoch or M. E. Braithwaite 1980-1982 are indicated! Other recent records are mainly those of A. G. Long, D. G. Long, H. M. Brown, G. Grahame and E. K. Swinton. Records before 1950 are shown as old records, most of these are before 1920.

Asplenium marinum L

Sea Spleenwort

Crevices and caves in sea cliffs, formerly on rocks by the Tweed 10 km from the sea.

Local and scarce, but distribution uncertain owing to extreme inaccessibility of habitat. Population less than 100 plants.

95—Lamberton! 86—Dowlaw Dean! 96—near Petticowick, 77—Reed Point! Cove, 87—Fast Castle!

Old records, 84—Ladykirk, 96—Eyemouth, Burnmouth.

Trollius europaeus L

Globeflower

Base-rich mires and flushes, occasionally burnsidcs.

Rare, formerly local. Population 300 plants.

54—Lauderhill! 65—East Crookburn! 86—Silverwells.

Old records, 54—Thirlestane, 64—Lightfield, 74—Hardacres, 84—Swinton, 45—to Hartside, 85—Broomdykes, Bunklewood, Billie Mains, 95—Edingtonhill, Foulden West Mains, Lamberton Moor, 76—Blackburnrigg Dean, 86—Lumsdaine, Penmanshiel Moss, Howpark Dean.

Corydalis claviculata (L) DC

Climbing Corydalis

Woods and rocky places on moors.

Local, sometimes plentiful, especially at Edingtonhill.

Population 1000 plants. 63—Mellerstain! 54—Thirlestane, 64—Gordon Moss! 65—Longformacus, Wrunklaw, 95—Edingtonhill! 76—Pease Dean, 86—Penmanshiel Wood.

Old records, 53—Black Hill, 75—Stoneshiel Hill.

Viola lutea Huds

Mountain Pansy

Grassy knowes on basalt or silurian outcrops.

Local. An estimated 28 localities, population 3000 plants. Some populations have been reduced by nitrate application. The largest population is on Lauder Common, 44, 54!

Many localities are coincident with those of ancient hill camps. 53, 63, 73, 44, 54, 74, 45, 55, 75, 95, 76, 86, 96, 87.

Vicia tetrasperma (L) Schreb Smooth Tare
Grassland in a sandstone quarry. Formerly cornfields near Roxburghshire boundary.

A southern species, possibly always a short-lived introduction in Scotland. 10 plants 1982.

84—Newton Quarry!

Old record (73)—Stitchill.

Alchemilla glaucescens Waller Lady's-mantle
Grassland in a disused railway cutting, old red sandstone with railway ballast. Introduced, but established. 30 plants.

A rare plant of upland limestone grasslands.

85—Chirnside!

Berula erecta (Huds) Coville Lesser-Water-parsnip
Mires, ditches and small burns.

Rare, formerly local. Population less than 100 plants.

A southern species near the northern limit of its range.

84—ditch, Lintillum, 85—Billie Burn, 96—Mire at St Abbs Head!

Old records, 73—Newton Don, 85—Hutton Hall, Broomhouse, 96—Mire at Netherbyres, banks of Eye.

Silaum silaus (L) Schinz & Thall Pepper Saxifrage
Grassland slightly flushed by base-rich springs.

Rare, formerly common. Population 100 plants. A southern species near the northern limit of its range.

63—Nenthorn, 84—Haigsfield, Hirsell Law, Skaithmuir!

Old records, 53—Hallidean, Dryburgh, 54—Lauder, 85—Bunkle, 96—Coldingham.

Populus tremula L Aspen
Woods and scrubs on acid soil.

Local and scarce. Population 300 trees.

83—Coldstream, 64—Gordon Moss! 55—Little Law, 65—Flass Wood, Byreclench, Longformacus, 75—Langtonlees Cleuch, 95—Lamberton Cliffs! 66—St Agnes, 76—Elba, 77—Cove.

Old records, 73—Newton Don, 86—Lumsdaine Dean.

Scutellaria galericulata L Skullcap
Mires.

Rare. Population 100 plants. In Scotland, commoner on the west coast.

74—Sisterpath Mill, 76—Pease Dean, 86—near Drakemire!

Galium boreale L Northern Bedstraw
Grassland flushed by base-rich springs, also basic rocks and crags.
Rare, formerly local. Population 30 plants. A northern species which had colonised an unusual lowland grassland habitat in Berwickshire. This habitat is approaching extinction.

53—Gateheugh! 73—Birgham! 83—Fireburn Mill! 84—Hirsell Law, Skaithmuir!

Old records, 73—Newton Don, 74—Hardacres, Anton's Hill, 84—Hatchednize, Milne Graden, 85—Allanton, Broomdykes, Billie Mains, Hammerhall, Lintlaw, 95—West Fishwick Mains.

Chrysanthemum segetum L Corn Marigold
Sandy arable fields. Casual in gardens and waste places.
Rare. formerly local. Annual population 0-100 plants.
73—Newton Don! 64—Lightfield.
Old records, 85—Craigswalls, 95—Lamberton, 96—Fairnieside,
Gungreen, St Abbs.

Antemisia maritima L Sea Wormwood
Sea stacs unsuitable for nesting seabirds. Shingle nearby.
Nationally rare in Scotland. The St Abbs Head colony may have
established itself only in the last few decades. Population less than
100 plants.
96—St Abbs Head! 87—St Helens Church!
Old records, 77—Dunglass Shore (possibly only casual).

Cirsium helenoides (L) Hill (C. heterophyllum (L) Hill) Melancholy Thistle
Near base—rich springs. Wet meadows, river and road sides.
Rare, formerly local. Population 1000 plants including vegetative
spread.
64—Gordon Moss! 84—Birgham Wood! 65—East Crook Burn!
75—East Crook Burn! Blacksmill Burn.
Old records, 54—near Old Thirlestane, 45—near Oxton, 75—Lang-
tonlees Cleuch, near Cockburn Law, 85—opposite Ninewells,
95—above Clarabad Mill, 76—below Edin Hall, 86—Lumsdaine
Dean, East of Houndwood, 87—Redheugh to Dowlaw.

Goodyera repens (L) R Br Creeping Lady's-tresses
Open habitats in Scots pine plantations usually associated with birch
and dominant blaeberry. Probably sites of ancient pinewoods.
Rare. Not seen recently. The pine plantations have been felled but
replanted and the orchid may reappear as the trees mature.
64—Mellerstain, 84—Hirsel Law, Skaithmuir
Old records, 84—Milne Graden, 85—Bunkle Wood, Lintlaw Burn,
86—Brockholes Plantation, 96—Whitfield.

Trientalis europaea L Chickweed Wintergreen
Bogs and moorland. Probably sites of ancient pinewoods.
Rare, but sometimes plentiful. Formerly local. Population 3000
plants including vegetative spread. A northern species near the
southern limit of its range.
65—Rawburn, 76—Blackburn Wood! 86—Drone Moss! Long
Moss! Silverwells.
Old records, 54—Birkhill, 54—Spottiswoode, 45—Hartside.

Utricularia spp Bladderwort
Extinct? No extant colony of a *Utricularia* sp is known.
U minor was seen at Gordon Moss in 1974.
Old records—*U vulgaris* L, 74—Bishop's Bog, 75—Girtrig (Lang-
ton), 85—Allanton.
U intermedia Hayne, 63—Lurgie Loch, 86—Penman-
shiel Moss.
U minor L, 64—Gordon Moss, 86—Penmanshiel
Moss.

Sparganium minimum, Hartm. Least Bur-reed
Small pools in bogs, edge of lochs, slow-moving burns.
Rare, formerly local. One small colony now refound. 30 plants.
64—Gordon Moss!
Old records, 86—Coldingham Loch, 96—Northfield Mill Pond,
Eye near Ayton.

Catapodium rigidum (L) C. E. Hubbard Fern-grass
Grassland on skeletal soils.
Rare, formerly local. Annual population 100-1000 plants.
95—Lamberton Cliffs! 96—Burnmouth, St Abbs Head!
Old records, 96—Flemington, 77—Linhead.

Catapodium marinum (L) C. E. Hubbard Sea Fern-grass
Coastal rocks.
Rare. Annual population 30-300 plants. Not known to the C19
Berwickshire botanists.
96—Eyemouth Lifeboat Station, Fancove Head! Breeches Rock! St
Abbs Head.

A STUDY OF VEGETATIONAL HISTORY IN ROXBURGHSHIRE

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Introduction

Palynology or pollen analysis is the study of pollen grains which are produced by higher plants and spores which are produced by lower plants. Because of the resistant nature of the cell wall both spores and pollen grains may be well preserved under certain environmental conditions, especially in peats and lake sediments and once extracted are readily identified at least to genus level. Thus, analysis of the pollen content of sediment can give some idea as to how vegetation has changed over the period through which the sediment has been accumulating.

The first observations of fossil pollen grains were made in the mid nineteenth century but it was Lennart von Post, a Swedish geologist, who developed pollen analysis into a useful technique when he presented the first modern percentage pollen analyses in a paper in 1916. Since then the technique has been used in a great many studies of vegetational history throughout the world. Erdtman, another Swedish geologist, introduced the technique to Britain and he published several papers on Scottish peat and lacustrine deposits in the 1920's.

This initial work was followed up by Godwin at Cambridge University who became a major advocate of the technique for stratigraphic work and as a record of the British flora. Godwin's classic book 'History of the British Flora' was published in 1956 and marked the first comprehensive account of palaeobotanical investigations in Britain. Until the 1950's, apart from the early work of Erdtman, most of these investigations were in England, especially East Anglia, and Scottish studies were few. Most of the subsequent investigations in Scotland have been from upland regions such as the Grampians and Eastern Highlands and the Islands such as Shetland and Skye and more lowland locations have been largely neglected, especially in the Eastern Borderlands. In order to fill this gap, a palaeoecological study was undertaken between 1972-1975 based primarily at Linton Loch near Morebattle and using pollen analyses to establish the vegetational history.

The Field Area

Linton Loch (Figure 1) at National Grid reference NT 793254 is situated immediately north of the B6401 road between Morebattle and Town Yetholm. The basin, now infilled, consists of reclaimed marshland and at 91.5m O.D. it lies at the northern edge of the Cheviot Massif in the basin of the River Kale, a tributary of the River Teviot. The geology of the area is described by Carruthers, Burnett and Anderson (1932) and Greig (1971). Briefly, it consists of local

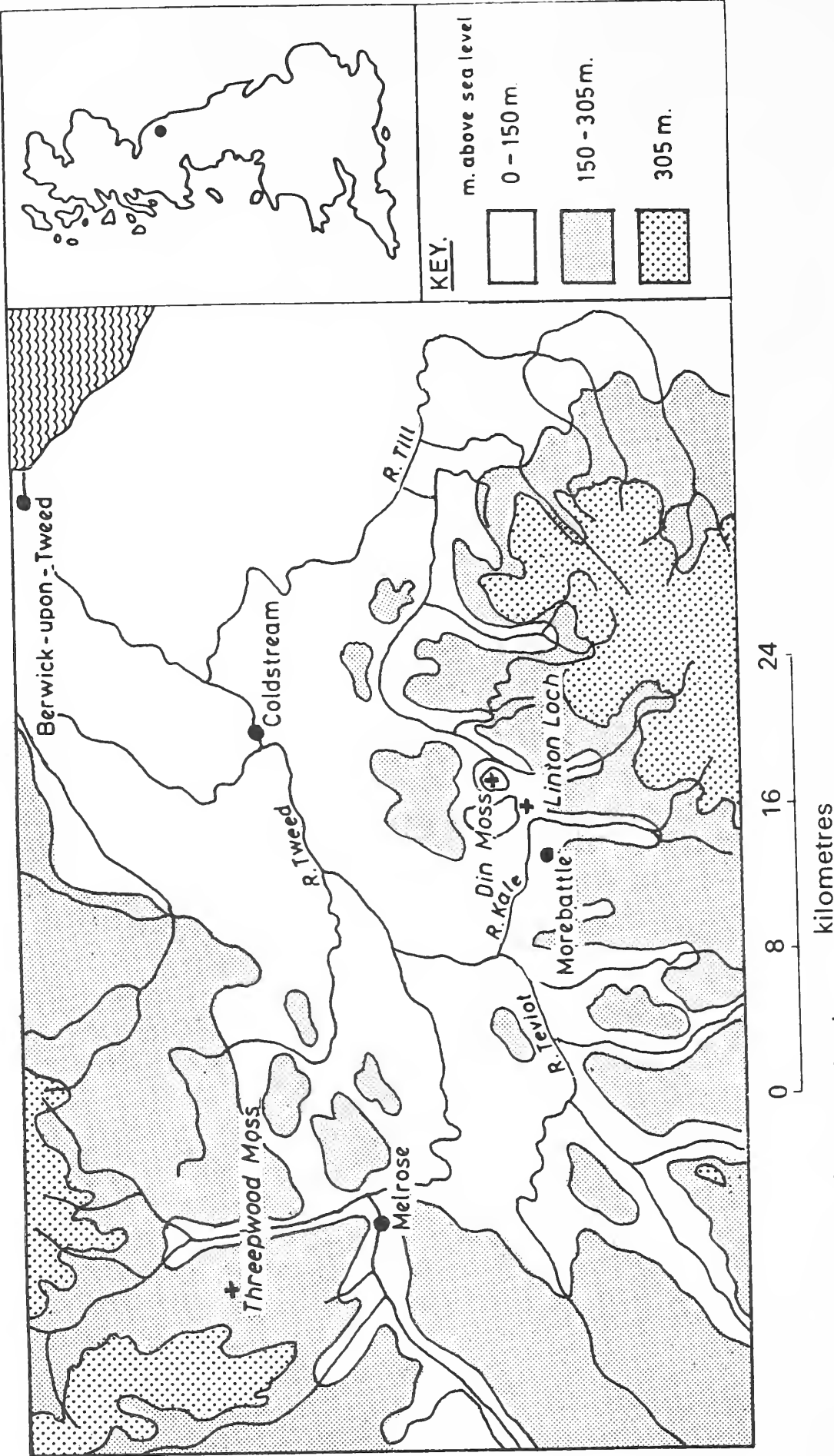


Figure 1. Location of Linton Loch

superficial deposits of carbonate-rich boulder clay of glacial origin which cover Carboniferous basaltic lavas to the north of the basin, andesitic lavas of Lower Old Red Sandstone age to the south and Old Red Sandstone marls and conglomerates to the west.

The main soils types in the Loch catchment are base-rich brown earths of the Eckford series as described by Muir (1956) and which carry pasture. An artificial channel drains into the River Kale from the basin where the present-day vegetation is typical of a small calcareous fen community. The dominant species present include *Equisetum* spp., *Carex* spp., *Phragmites communis*, *Phalaris arundinacea* with occasional *Crataegus monogyna* and *Salix* spp.

Field Investigations

The nature of the sediments (stratigraphy) of the loch basin was ascertained by taking a series of cores from the points across its surface with a peat sampler. The borehole sites were surveyed on to a 1:2500 O.S. map and levelled to O.D. The results indicated that the basin consists of a steep 'U' shaped trough with a steep northern margin and shallow shelf development at its southern edge. Two cores were finally collected for subsequent laboratory analyses. Core A of 8.5m depth was extracted from a northern position and core B of 6.5m depth from an east central position.

The following sediments were recorded from both cores:.

Surface

Fen peat: Dark brown fibrous peat with roots of present day vegetation.

Fine detritus mud: Finely textured mud, yellow-brown in colour with a high water and silica content.

Coarse detritus mud: Dark brown, fibrous with *Corylus* nuts and wood remains of *Betula* and *Corylus*.

Coarse detritus mud with shells: As above but with complete and comminuted shells of freshwater snails cf. *Limnaea* and *Planorbis*.

Marl: White/yellow calcareous deposit also with snail shells.

Blue clay: Fine calcareous clay.

Pink clay: Fine non-calcareous clay.

Gravel: Coarse impenetrable material marking the bottom of the basin.

Bottom of
basin.

Laboratory Procedure

Along the lengths of both cores A and B, small amounts of sediment were extracted at approximately 10cm intervals and placed in small phials which were then sealed with wax to prevent drying and for

storage. The remainder of the cores was also retained for storage for subsequent work on the algal remains and chemical content.

For pollen analysis itself, batches of eight samples were processed at any one time. Essentially, the procedure for extracting the pollen and spore content from the sediment consists of eliminating unwanted material, in particular organic remains and silica. This process involves boiling with hydrofluoric acid to dissolve the silica and oxidation to remove organic material. A biological stain can then be added to the final residue which can be mounted on microscope slides. The pollen grains and spores can be identified and counted using a magnification of X400 or X1000 for problematic grains. Aids to identification include keys, atlases of pollen types and a reference collection of modern material.

Results

The most conventional way in which pollen analytical results are presented is in diagram form where each taxon is given as a percentage of either the arboreal pollen sum (tree pollen) minimum 150 grains, or of the total pollen sum, 300 minimum. Here, however, the summarised results are given in tabular form (Table 1). The notation LA1, LA2, etc. has been used to denote local pollen assemblage zones, defined by their contained pollen and spores and named after the dominants present. For example, zone LA1 is the *Betula*—*Corylus*—*Quercus*—*Ulmus* zone and is dominated by these pollen types. Since there is good agreement between the two cores, detailed results of only the A core are given below.

The A core

Below 5.9m: The blue and pink clays did not contain sufficient pollen for reasonable counting.

Zone LA1 Betula—Pinus—Corylus—Quercus—Ulmus zone.

The pollen record begins at the base of the marl and three major subdivisions of this zone may be recognised:

Subzone LA1: Arboreal pollen percentage rise, especially *Betula*. *Pinus* is consistently present. Initially high Gramineae pollen frequencies decline. *Filipendula* pollen percentages decline.

Subzone LA1b: *Betula* pollen frequencies are high and *Pinus* remains consistently present. *Quercus* pollen frequencies increase and a continuous record of *Ulmus* begins. Shrub pollen, especially *Corylus* increases sharply, exceeding all other pollen by the end of the subzone.

Subzone LA1c: *Betula* pollen frequencies decline slightly, *Pinus* values are maintained whilst *Quercus* and *Ulmus* increase. *Corylus* represents 65–70% total pollen. *Alnus* appears towards the close of the subzone. Herb pollen is low.

Table 1. *The pollen zones of Linton Loch cores A and B and their relationship to the chronozones of Din Moss.*

<i>Linton Loch</i>	<i>Linton Loch</i>	<i>Din Moss</i>	<i>Radiocarbon</i>	<i>Flandrian</i>
<i>core A</i>	<i>core B</i>		<i>dates</i>	<i>stages</i>
(Mannion, 1975, 1978)	(Hibbert & Switsur, 1976)	(Switsur & West, 1973)	(West, 1970)	
LA3c — — — — — — — —	LB3c			F
<i>Alnus—Quercus—</i>				L
LA3b — — — — — — — —	LB3b	g FIII	<i>Quercus—Alnus</i>	A
herb zone			zone	N
LA3a	LB3a			D
				R
				I
				A
				N
				III
Ulmus decline			5341±70	
				F
LA2 <i>Alnus—Quercus—Ulmus</i>	LB2 fFII	<i>Quercus—Ulmus—Alnus</i>		L
zonec		zone		A
				N
				D
				R
				I
				A
				N
			6528±100	
LA1C ₃ — — — — — — — —	LB1C ₃ cFlc		— — — 7360±140	F
<i>Betula—Pinus—</i>	<i>Betula—Quercus—</i>			L
LA1C ₂ — — — — — — — —	LB1C ₂ dFld			A
<i>Corylus—Quercus—</i>	<i>Alnus—Corylus</i>			N
LA1C ₁ — — — — — — — —	LB1C ₁ cFlc	zone	— — — 8940±170	D
<i>Ulmus</i> zone				R
LA1b — — — — — — — —	bFlb		— — — 9824±190	I
LA1a	aFla			A

Zone LA2 *Alnus—Quercus—Ulmus* zone.

Alnus pollen frequencies are high, contributing 50% of the arboreal pollen. *Ulmus* and *Quercus* pollens increase.

The zone LA2-LA3 boundary reflects a fall in pollen—the *Ulmus* decline.

Zone LA3 *Alnus—Quercus—herb* zone.

Three subdivisions of this zone may be recognised:

Subzone LA3a: *Ulmus*, *Pinus* and *Betula* pollen percentages decline while *Alnus* and *Quercus* remain consistent. Herb pollen frequencies increase and pollen of heliophytes, Ericaceae and *Plantago lanceolata* are recorded.

Subzone LA3b: All arboreal pollen types decline as herb pollen, particularly Gramineae increases. The *P. lanceolata* curve becomes continuous and a wide variety of herb pollen types are recorded.

Subzone LA3c: Arboreal pollen concentrations remain low, herb pollen is dominant and *Pinus* pollen reappears.

Interpretation

Lakes (and peat deposits) act as collecting media for airborne particles including pollen grains and spores. Thus, lake sediments contain a record of the regional pollen rain which is derived from the vegetation of the lake catchment as well as from the vegetation of the lake itself—the local pollen rain. The sediment, therefore, contains a record of changes in the pollen rain over time and, by interference, provides a record of the vegetational history of its catchment.

Whilst there is no simple relationship between pollen assemblages and the plant assemblages which produced them, interpretation is based on known ecological preferences of species and indicator species.

The basal clays: Since pollen was very sparse and no counts were obtained, it seems likely that there was a large proportion of mineral matter entering the basin and/or that vegetation was sparse with low pollen production.

Zone LA1

Subzone LA1a: Increasing A.P. frequencies indicate the migration of trees, especially *Betula* on to a landscape dominated by herbaceous species. Remnants of an earlier flora of Late Devensian age are represented by pollen of heliophytes, particularly *Filipendula*, and probably, *F. ulmaria* (Godwin, 1956). This is a thermophilous herb and the relatively high proportions of its pollen in LA 1a are taken as indicative of ameliorating temperatures at the opening of the Flandrian period (after Iversen, 1954).

It is possible that *Pinus* pollen frequencies are indicative of over-representation of the species due to the susceptibility of its pollen grains to long distance transport. Since, however, the frequencies of *Pinus* are consistent and its presence has been suggested at other sites in Midlothian and Peebleside (Newey, 1967) it may well have been present in the Linton Loch catchment.

Subzone LA1b: Open habitat species continue to decline as trees dominate the landscape, especially *Betula* and *Pinus* which maintain their cover despite the rapid inspread of *Corylus* and the slower inspread of first *Quercus* and later *Ulmus*.

Subzone LA1c: In the early part of the subzone, the *Betula* cover is not reduced despite the continued and rapid inspread of *Corylus*. *Ulmus* and *Quercus* show a consistent presence. The most likely species of *Ulmus* to have become established is *Ulmus glabra* (Godwin, 1956; Stockmarr, 1970). Both *U. glabra* and *Corylus* are susceptible to lake spring frosts and prefer mull soils for easy regeneration. Consequently, their increased cover is taken to indicate ameliorated temperatures and the development of mull soils in the catchment.

Towards the centre of the subzone *Pinus*, *Quercus* and *Ulmus* become well established. The *Betula* cover, however, was not reduced and may be an indication of a diffuse tree cover allowing the persistence of *Corylus* and *Betula* comparatively free of shade.

Towards the close of the subzone the *Betula* and *Corylus* covers began to decline as that of *Pinus* increases, *Ulmus* and *Quercus* covers are maintained and *Alnus* and *Tilia* appear.

Zone LA2

The *Alnus* cover rapidly increased as *Betula*, *Pinus* and *Corylus* declined and the landscape was dominated by mixed oak forest species.

Zone LA3

Subzone LA3a: The landscape remained tree dominated, especially by *Quercus* and *Alnus*, despite a rapid *Ulmus* decline and a more gradual reduction of *Betula*, *Pinus* and *Corylus*. *Plantago lanceolata*, a ruderal species, is associated with the *Ulmus* decline which is widespread phenomenon, characteristic of pollen diagrams throughout Britain and North West Europe and is considered to be associated with Neolithic 'farming' practices (Iversen, 1941). This is the earliest indication of the activity of prehistoric peoples interfering with the vegetation cover in the vicinity of Linton Loch.

Towards the close of subzone LA3a, the pollen assemblages reflect further opening of the forest canopy by a reduction in all tree species and an increase in open-habitat species, especially Gramineae and heliophytes. This period may represent the Bronze Age since there are numerous records of Bronze Age finds in and around Linton Loch (Wilson, 1858).

Subzone LA3b: Open-habitat species dominated the landscape as the tree cover was further reduced, possibly during the Iron Age, the Roman period and into historic time. Historical references suggest pastoral rather than arable farming practices at least from the monastic period onward (White, 1973).

Subzone LA3c: *Pinus* reappears on the landscape probably due to the planting of shelter belts which can be seen today. The landscape generally, however, remains open with only a small tree cover.

A Tentative Chronology

It proved impossible to obtain radiocarbon dates from Linton Loch and since the site is calcareous, such dates may have been meaningless. However, a similar pollen-analytical investigation including radiocarbon dates was undertaken at Din Moss (Hibbert and Switsur, 1976) a site 2k distant (Figure 1).

On the basis of a comparison between the pollen assemblages at the two sites which show good agreement, it has been possible to extrapolate the Din Moss dates to Linton Loch and thereby erect a tentative chronology for the development of vegetation. These dates are given in table 1.

Conclusion

In general the events at Linton Loch may be summarised as follows:

- Flandrian III: Man's influence on the vegetation pattern becomes apparent as deforestation occurs on a large scale and the landscape becomes dominated by open habitat species.
- Flandrian II: Mixed oak forest dominates the landscape.
- Flandrian I: Forest species become established at the expense of herbaceous species.

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RECORDS OF MACRO-LEPIDOPTERA IN ROXBURGHSHIRE AND SELKIRKSHIRE

Additional species taken during publication of the lists
A. G. Buckham, Galashiels

Small Blue <i>Cupido minimus</i>	12.6.75	Slirrig Viaduct, Hawick	NT 41	Small colony could easily be destroyed.
Green Hairstreak <i>Callophrys rubi</i>	2.6.79 10.6.79	Nr. Golf Course, Newcastleton Nr. Golf Course, Newcastleton	NY 48 NY 48	Several.
Small Pearl-bordered Fritillary <i>Boloria selene</i>	16.7.78	Smidhope Burn, Ettrickhead	NT 10	Several recorded by Dr. Rodrick Corner.
Dark-green Fritillary <i>Argynis aglaja</i>	31.7.76	Blackhouse, Craig Douglas, Yarrow	NT 22	Two on Thistles.
Large Heath <i>Coccyonympha tullia</i>	29.6.75	West end of Alemoor Reservoir	NT 31	Fairly strong but widespread colony.
Large Skipper <i>Ochlodis venata</i>	7.77 7.78	Riccarton Bar, Roxbs. Broadhaugh	NY 49 NT 41	1 seen by Mrs. Taylor. Several on tufted vetch record by. Michael Mann.
Bedstraw Hawk <i>Hylis gallii</i>	17.10.73 29.5.74	Railway Station Selkirk Imago from J. Forsyth, St Boswells	NT 42	Larva on willowherb (R. Elliot). No data.
Small Elephant Hawk <i>Deilephila porcellus</i>	7.78 13.8.79	Riccarton Bar, Roxbs. Homeliknowe, Coldingham	NY 49 NT 96	One in light-trap (J. Taylor). Several larvae on bedstraw.
Silver-striped Hawk <i>Hippotion celerio</i>	7.11.82	Linwood Lodge, Hawick	NT 41	On ground outside window (K. Sinclair) unusual migrant.
Buff-tip <i>Phalera bucephala</i>	19.6.74 29.5.82	Wells Sawmill, Denholm Melrose, Roxbs.	NT 51 NT 53	Fairly widespread. One in light-trap.
Sallow Kitten <i>Harpyia furcula</i>	20.6.75 27.5.82	Wells Sawmill, Denholm Tweedbank, Galashiels	NT 51 NT 42	Ova & larvae on Salix capria. One at street light
Iron Prominent <i>Notodonta dromedarius</i>	30.7.73 26.7.82	Wells Sawmill, Denholm Melrose, Roxburghshire	NT 51 NT 53	Common at light-trap. Two in light-trap.

Lunar Marbled Brown <i>Chamaea ruficornis</i>	3.5.74 20.5.76	Wells Sawmill, Denholm Wells Sawmill, Denholm	NT 51 NT 51	One male in light-trap. Common in small numbers at trap.
Scarce Prominent <i>Odontostia carmelita</i>	15.5.81	Newcastleton, Roxburghshire	NY 48	One in light-trap (D. Ellis).
Figure of Eight <i>Episema caeruleocephala</i>	16.10.69 19.10.77	Rutherford Mains Kelso Wells Sawmill, Denholm	NT 63 NT 51	Two in light-trap. Occurs sparingly at light-trap.
Yellow Horned <i>Achlya flavicornis</i>	29.3.71 20.3.77	Bowmont Forest, Kelso Wells Sawmill, Denholm	NT 72 NT 51	Three in light-trap Fairly common where Birch grows.
Yellow-tail <i>Euproctis similis</i>	9.8.74 7.8.77	Wells Sawmill, Denholm Wells Sawmill, Denholm	NT 51 NT 51	One in light-trap. One in light-trap, not common.
Common Footman <i>Lithosia Curideola</i>	16.7.75 13.7.76	Wells Sawmill, Denholm Wells Sawmill, Denholm	NT 51 NT 51	One in light-trap One in light-trap, unusual.
Wood Tiger <i>Barasemia plantagenis</i>	10.7.77	Aleemoor Reservoir, Roxbs.	NT 31	Three disturbed from heather.
Garden Dart <i>Euxoa nigricans</i>	17.8.73 8.8.82	Wells Sawmill, Denholm Melrose, Roxburghshire	NT 51 NT 53	One only in light-trap. six in light-trap.
Purple Clay <i>Diarzia brunnea</i>	20.6.72 8.7.74	Wells Sawmill, Denholm Wells Sawmill, Denholm	NT 51 NT 51	One in light-trap. Frequent in small numbers.
Fen Square Spot <i>Diarsia floride</i>	12.7.72 10.7.77	Wells Sawmill, Denholm Wells Sawmill, Denholm	NT 51 NT 51	Fairly frequent in light-trap Identification by E. C. Pelham-Clinton R.S.M.
Square-spot Rustic <i>Amathus xanthographa</i>	9.8.76 11.8.76	Wells Sawmill, Denholm Wells Sawmill, Denholm	NT 51 NT 51	Two only taken at light-trap during 1976.
Great Brocade <i>Eurios occulta</i>	21.8.76 13.8.77/24.8.77	Wells Sawmill, Denholm Wells Sawmill, Denholm	NT 51 NT 51	Three in light-trap. Fourteen in light-trap.
Marbled Coronet <i>Aadena confusa</i>	31.7.79 7.79	Melrose, Roxbs. Tweedbank, Galashiels	NT 53 NT 53	One only in light-trap. One at street light.
Saxon	10.6.79 6.81	Newcastleton, Roxbs. Newcastleton, Roxbs.	NY 48 NY 48	One only on each date Taken in light-trap by D. Ellis
Hedge Rustic <i>Tholera cespitis</i>	26.8.76 9.4.76	Wells Sawmill, Denholm	NT 51	One only in light-trap

Shark	4.7.76	Wells Sawmill, Denholm	NT 51	One only in light trap.
<i>Cucullia umbratica</i>	3.6.81	Melrose, Roxbs.	NT 53	Two in light-trap.
Golden-rod Brindle	31.8.76	Wells Sawmill, Denholm	NT 51	One only taken in light-trap.
<i>Lithomoia solidaginis</i>				
Earl Grey	11.4.80	Newcastleton, Roxbs.	NY 48	One only taken by D. Ellis.
<i>Xylocampa areola</i>				
Miller	3.7.74	Wells Sawmill, Denholm	NT 51	One in light-trap, not common.
<i>Apatele leporina</i>	14.8.76	Wells Sawmill, Denholm	NT 51	2 larvae on Poplar.
Bedrule Brocade	29.8.76	Wells Sawmill, Denholm	NT 51	One only in light-trap.
<i>Blepharita solieri</i>				Continental species but 1st record for British Isles.
Marbled Beauty	19.7.76	Wells Sawmill, Denholm	NT 51	One only in light-trap.
<i>Cryphia perla</i>	27.7.79	Melrose, Roxbs.	NT 53	Common, six in light-trap.
Straw Underwing	8.8.75	Newmill-on-Teviot, Roxbs.	NT 41	Two at electric-light taken by Michael Mann.
<i>Thalpophila matura</i>				
Lunar Underwing	14.9.77	Wells Sawmill, Denholm	NT 51	One only in light-trap.
<i>Omphaloscelis lunosa</i>	14.10.79	Melrose, Roxbs.	NT 53	Common at light.
Anomalous	26.8.76	Riccarton Bar, Roxbs.	NY 49	One in light-trap (J. Taylor).
<i>Stilba anomala</i>	3.8.77	Wells Sawmill, Denholm	NT 51	One only in light-trap.
Green Silver-lines	29.6.74	Wells Sawmill, Denholm	NT 51	Comes sparingly to the light-trap.
<i>Bena prasimana</i>	28.6.76	Wells Sawmill, Denholm	NT 51	
Grass Emerald	7.77	Riccarton Bar, Roxbs.	NY 49	One only taken in light-trap by J. Taylor.
<i>Pseudoterpha pruinata</i>				
Dark-barred Twin-spot		Melrose, Roxbs.	NT 53	One only in light-trap.
Carpet	3.9.80			
<i>Xanthorhoe ferrugata</i>				
Dark Spinach	4.8.79	Melrose, Roxbs.	NT 53	One female in light-trap.
<i>Pelurga comitata</i>				

ACKNOWLEDGEMENT: I wish to express my thanks to Dr. A. G. Long, Mr. E. C. Pelham-Clinton, Royal Scottish Museum and Mr. T. D. Thomson for their help and guidance during the publication of these lists which I hope may give incentive to others to publish their natural history observations.

THE BERWICKSHIRE NATURALISTS' CLUB LIBRARY

The Club Library is housed at the Berwick Public Library and is available for use by holders of the special Club Library Ticket, which is issued on application to the Librarian of the Club. Regulations for the use of the Library were approved by the Council in March 1979 and then circulated to all Club members. Further copies can be obtained from the Librarian, together with a check list of books and periodicals in the Library. The Librarian will be pleased to meet any interested members, by appointment, to explain the facilities available and show the library stock.

The Librarian administers the Club's stock of past issues of the Club "History", and would welcome offers of unwanted past issues by members. Several such gifts, including some important runs have been gratefully received during the year. Copies of Vol. XXXI, parts 1, 2 & 3 (1947, 1948 & 1949) are especially needed.

REPORT OF THE LIBRARIAN TO THE ANNUAL MEETING, 14th October 1981

During the past year much of the work of the Librarian has been concerned with the administration of the stock of past issues of the History. It has been possible to fulfil an unusually large demand for back issues, and this has been balanced by some considerable gifts of unwanted copies by members and others. As a result the Library Fund has benefitted, and the balance may now be regarded as sufficient to undertake occasional purchases, while the stock of most back issues remains more than adequate to meet foreseeable demand.

In addition, the Librarian has been asked to supply information to members and others on matters within the area of the Club's interests, and in most cases has been able to be of some assistance. Enquiries have included a request for help in identification of the subject of a painting in an Art Gallery in the United States and several relating to ancestry research, as well as other matters.

Accessions, all by gift, since the last Annual Meeting, include:
ATTENBOROUGH, D. Life on Earth. London 1979
BARBER, D. (Ed.) Farming & Wildlife. London 1970
R. AGRI. COLL. CHICHESTER Eysey Farm. Chichester 1979
NATURE CONS. COUNCIL Nature Conservancy & Wildlife. London 1977
JOHNSON, A. T. & SMITH, H. A. Plant Names Simplified. London 1964
DEPT. of ENVIR. Principles of Publication in Rescue Archaeology. London 1975
BECKENSALL, S. Rock Carvings in Northumberland (off-print) Almogaren ix/x 1980
WELFARE, A. T. The Miniature Cinerary Urn from Scrainwood (off-print) 1980

TATE, G. The History of the Borough, Castle & Barony of Alnwick (2 vols) 1866-9

LIBRARY ACCOUNTS.

<i>Income</i>		<i>Expenditure</i>	
Opening Balance (Oct 80)	214.21	Librarian's postages	4.99
Sales of "History"	182.78	Balance forward (Oct 81) at	
Bank interest	25.87	Royal Bank of Scotland	417.87
	<u>422.86</u>		<u>422.86</u>

H. S. ROSS
Librarian

At the Annual Meeting there will be a small display of books by Dr. Johnston and others about him or connected with the early years of the Club, selected from the Club Library and the Librarian's personal collection.

TREASURER'S FINANCIAL STATEMENT FOR THE YEAR ENDING 22nd SEPTEMBER, 1981

<i>Income</i>		<i>Expenditure</i>	
<i>Subscriptions</i>		<i>Printing</i>	
Annual, Junior and Library	£1601.00	General	£226.91
Entrance Fees	26.00	History	1491.56
Badges	21.25		
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	£1648.25	<i>Sundries</i>	
<i>Sundries</i>		Postages—Club Notices	£70.15
Refund of tax/Covenants	£90.28	Postages—History	76.38
Visitors' fees	43.15	Postages—Subs. Reminders	38.76
Donations	25.00	Donations—Eyemouth Museum	100.00
	<hr/>	Donations—Chirnside Prim. Sch.	10.00
		Presentation Past Treasurer	25.00
	158.43	Wreath—Ex-President	5.00
<i>Arrears of Subscription</i>		Refund of Subscription	8.00
Arrears for 80-81 Season	2.00	Stationery purchased	2.94
		Gratuities: Greenknowe visit	2.70
		Hire of room	4.20
		Library Insurance	7.50
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			350.63
<i>Bank Interest received</i>			
Royal Bank of Scotland—		<i>Subscriptions paid</i>	
Deposit A/c	298.00	Scottish Regional Council (Archae-	
		ology)	£7.50
		Asscn. for the Preservation of Rural	
		Scotland	5.00
			<hr/>
			12.50
Excess of Expenditure			
over Income	259.07	<i>Officials' Expenses</i>	
		Mr. T. D. Thomson (Corresponding	
		Secretary)	£10.63
		Mr. & Mrs. MacKenzie Robertson	
		(Joint Field Secretaries)	258.46
		Mr. J. T. Walker (Treasurer)	15.06
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